

THE MOTHER'S GUIDE.

MARY SCHARLIEB, M.D.

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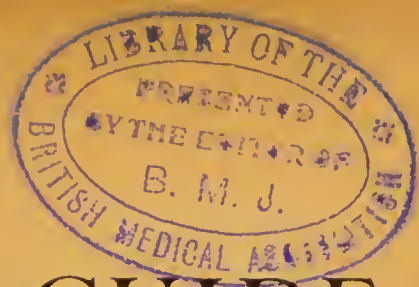
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THE MOTHER'S GUIDE

To the Health and Care of her
Children

BY

MARY SCHARLIEB, M.D. B.S. (LOND.)

AUTHOR OF "A WOMAN'S WORDS TO WOMEN," ETC.



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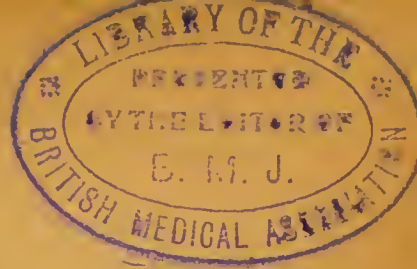
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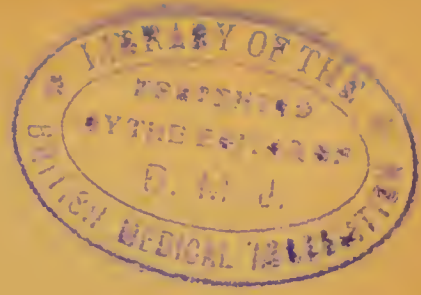
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The Mother's Guide

CHAPTER I

HYGIENE OF CHILDHOOD

THE hygiene of childhood is a very important subject. It must be the mother's constant study to keep her children healthy in body and mind, and to place them under conditions which secure their due development, mental, moral and physical.

Babies vary greatly in weight and somewhat less in length at birth. Seven pounds may be considered usual, but nine pounds is not unusual weight. On the other hand an infant born at full term is sometimes, but more rarely, less than six pounds in weight.

The usual length is twenty-one inches, but children as small as sixteen inches have been recorded, and the big children who weigh nine or ten pounds may measure twenty four inches in length.

During the first week little or no increase in weight occurs. There is loss of weight during the first three days which is about recovered during the next three or four, so that the child's weight at the end of the first week differs but little from what it was at birth.

The rate of growth is greatest in the first few months. Within the first year, an increase of eight inches is normal and the weight may increase threefold.

It is to be remembered that the rate of growth is not uniform, and that every child has periods of rapid increase in height and weight alternating with periods of much less rapid growth. This does not mean that the child is ill, and unless the arrest is long continued it calls for no notice. While very young there is almost always an increase of weight of about five ounces weekly, although this gain will vary with the child's health and during an attack of indigestion or other illness, the gain may easily be converted into loss. It is, however, in older children that the alternations of rapid and slow growth are most frequent.

The maturity of a baby at birth, that is the fact of its having been carried to full time, is not to be judged by its size but by its development. **Signs of maturity.** A full time baby should be of a rosy, red colour, the skin not too hairy, the nails a little beyond the tips of the fingers, the eyes should be clear and the pupils of the eyes, (the central black portion) should have no film in them.

The child should be able to cry, to suck, and to move its limbs vigorously. Many babies, especially the big babies who have been long in the birth, and those who have been delivered by forceps, are born with their heads somewhat out of shape. This need excite no alarm, the head rapidly regains its proper contour. The newborn infant is very sensitive

to cold. Its surface is easily chilled, and unless properly clothed and cared for, it becomes blue and cold, the lips tremble, and probably it shivers all over. **How to apply warmth.** To make a baby comfortable, it should be clothed in fine, soft, woollen garments and should be supported by pillows in its cradle, not only the head pillow but a small bolster on each side so as to support the child's back and abdomen.

These little pillows are always used in India and appear to contribute greatly to the comfort of the infant. Another article of cradle furniture is a hot water bottle. This should be put under the blankets and not near the child, so that no risk of burning or over-heating it is incurred. The coverings should be so arranged that the child's face is not covered, for the cradle must be well ventilated and the child needs plenty of pure air.

Rest and sleep. A healthy baby at first sleeps nearly all the time. It only wakes when it is uncomfortable. When in health a baby's cry usually means that it is hungry, cold, or wet. However all, even healthy infants, suffer from flatulence, the consequence of temporary indigestion and this will sometimes disturb its usual tranquil sleep.

The new born baby should live in its cradle, never in its mother's or nurse's bed. It should be allowed to sleep as much as it will, as a rule it will sleep for about two hours and then awake and cry. This means that it is hungry and perhaps wet. Its wants should be satisfied and then it should be tucked up again so that it may sleep and grow, while its mother rests or works. The hot water bottle is of great service in maintaining this regularity of food and rest, otherwise the child often cries because it is cold but the cry is misunderstood and finally food is given which the stomach is not ready to receive and which therefore causes indigestion.

After two or three months the baby's waking times become longer and it takes more notice of its surroundings. At first the infant seems only to notice light and sometimes a large and definite patch of colour. It knows its mother if she suckles it ; but this appears to be from its sense of smell for the child who has a wet nurse prefers to be with its foster mother, and the bottle fed baby likes best the person who feeds it. This time of purely instinctive and reflex existence quickly develops into a more intelligent state and after a few weeks the baby replies with smiles and kicks to its mother's caresses, it soon learns to know her face and other faces often seen and will show this recognition by signs of pleasure which it does not accord to strangers.

The day's routine. The routine of a healthy baby's life at about two months old is something as follows. It should have its first meal about half past six or seven and then sleep or lie in its cot until half past eight, when it should be bathed and dressed. When the baby is undressed night and morning and also when its diaper is changed, it should be allowed to kick its little legs and to make all possible movements. There is no doubt as to the pleasure the child feels nor that he thus develops not

only his muscles but also his brain and nerves. When a little older he should be put on the floor on a thick rug well protected from draughts and allowed to kick and roll about.

At nine it should have another meal and then be put to bed in its bassinette perambulator and taken into the air to sleep as long as possible. This may be until noon for the fatigue of bathing and dressing followed by food will often prolong this morning sleep. About noon another meal is given and then the little infant sleeps again, if the weather is suitable out of doors, until about three or half past. It must then be fed again and perhaps will remain awake until it is time for its evening wash and change of clothes. Some mothers give a bath in the evening but for small babies it is better only to wash the face and hands and to bathe the buttocks and the neighbouring parts thoroughly and so to make the child fresh and clean for its night's rest. After this process it should be fed and then be put into its cradle. A child should not be hushed or rocked to sleep, if put into its cradle awake and made as comfortable as possible it will soon fall asleep.

Hushing and rocking begin bad habits, and make the child dependent on outside circumstances for what should come naturally. It is well to take the baby up about ten o'clock to change its diaper and to give it food. After this it should be encouraged to sleep through the night if possible and if it is necessary to feed it or to attend to its wants, all must be done as quietly and with as little light and disturbance as is possible. As the child grows older the intervals between its meals increase in length and its hours of sleep become longer and more definite; but care should be taken that it is in bed ready for the night by seven in the evening and that it is got up at seven in the morning. If the child has a meal then it will be digested in time for it to have its bath and be dressed and fed by ten so that it may secure its morning's sleep of two or three hours. After the first two or three months the child will probably be awake from seven to ten in the morning and from four to seven in the evening. Under no circumstances should little children have their regular hours upset. They should not be brought downstairs to the drawing room in the evening because they cannot sleep. Such indulgence only

makes bad worse. The child who has tasted the sweets of the bright light and the game of play will surely cry the next night in the hope that it will have a repetition of the pleasure.

The first two years of life will generally decide what the individual is to be physically, and morally; and the child whose parents have little sense of duty, and are deficient in self control, is badly handicapped in the race of life. Not only does he start burdened with an hereditary tendency to repeat the faults and shortcomings of his parents but from their mismanagement of his early months he learns that by crying he can get things that are often wisely denied and that he has only to make himself sufficiently unpleasant to secure anything he wants.

The father or mother who yields to a child's cries or importunities does not deserve to have the care of a moral being and those who punish their children as an outlet to their own temper wreck the happiness and welfare of the family.

Sleep is very essential for children and the habit of a long morning sleep should be encouraged up to the time that children go to school. Care should be taken that the room is cool, dark and airy, especially in hot climates. In England little children frequently sleep in their perambulators. In that case the little carriage must be arranged to permit the child to lie down comfortably.

Food. The proper food for the infant is his mother's milk and neither doctor nor mother should spare any pains to secure this most desirable object. The child's chances of life and health are so greatly increased by this natural arrangement that any sacrifice of convenience by the mother is amply repaid.

Mother's Milk. At the time of delivery, especially with first babies, it is quite the exception to have sufficient milk in the breasts. Many mothers anxious to nurse their children are greatly distressed by this. They need not worry for about the third day the breasts usually become full and turgid and in a few hours there is as much milk as the child can take, indeed there is often enough for two babies. Even from birth it is better to put the child to the breast, the action of sucking, if not too forcible or too prolonged, helps the secretion of milk, and also does

the mother good by stimulating the contraction of the womb.

If there is really no milk the baby's efforts should not be prolonged for they may cause soreness of the nipple, and the child finding no reward for his labours will be unwilling to repeat them even when the milk has come and his services are required.

For this case one measured ounce of cow's milk and water (prepared as in formula 1 of Appendix) may be given. From the time that there is any milk in the breasts, the baby should be regularly nursed every two hours at first. The interval is gradually lengthened until at the end of two months it amounts to three hours.

Women vary greatly in their capacity as nurses and no doubt many unfit themselves for this duty by constipation and undue purgation, also by bad temper, irritability, late hours, undue indulgence in social functions, and sometimes by too hard work. Other women are badly fitted by nature for the office of nurse being delicate or, although otherwise healthy, having a supply of milk which is deficient in quantity or quality.

Sometimes massage of the breast induces an abundant secretion of milk.

Artificial feeding.

The substitute feeding of infants has been reduced to a science by American physicians and the result of their labours is the institution in many large towns of the Walker Gordon Laboratories" (London address: 5A Duke Street, Grosvenor Sq., W.)

If milk as nearly as possible like human milk is required for a healthy baby it is only necessary to write to the laboratory and state the child's age. If the child is suffering from indigestion or from any other illness the doctor in attendance can order milk containing just the quantity of sugar, fat, and other substances desirable for that individual child. The milk can be sent to addresses within a few hours distance from London and no doubt if sufficient encouragement is given, laboratories will be established in the principal British towns. They already exist in many towns in the United States and in Canada.

Where this specially prepared milk cannot be obtained,

the milk from any reliable source may be diluted and otherwise modified as suggested below. Changes in the quantity and quality of the child's food must be made by degrees and no change should be made, except under medical advice, when the child is not quite well. As for instance when he is cutting a tooth or has a cold. The infant

Feeding bottles. should take his food from a bottle through an india-rubber teat with small holes. The action of sucking promotes the child's digestion, develops his jaw, and by slightly fatiguing him deters him from overfilling his stomach. The only children who should be fed from a spoon are those who are too feeble to suck, as for instance premature babies, those who are seriously ill, and those who cannot suck owing to the existence of cleft palate or hare-lip.

The feeding bottle used should be simple and easily cleaned the india-rubber teat fitting directly on to the bottle, no intermediate tube of glass or india-rubber being employed. It is practically impossible to keep the glass and india-rubber tubes clean, and the slightest impurity is enough to upset the child's delicate stomach. The bottle must be emptied as soon as the child has taken his meal. It should then be held under a tap, washed thoroughly, after this it should be scalded and left in a basin of boiled water until it is wanted again. The teat should be separately washed both inside and outside and should also be left in the basin.

Nurses sometimes prefer a bottle with a long india-rubber tube because it can be propped up in the cradle, the teat between the child's lips so that the nurse has not to hold the bottle. The whole arrangement is faulty, the child's attitude is not favourable for feeding, the rate of flow is not regulated and the child may take his food too lazily or too greedily.

Wet-Nurse. Some babies cannot be brought up by hand, human milk is necessary for them. If they are deprived of their mother's milk a wet-nurse must be found. In England wet-nurses are usually selected from among the young mothers in the wards of lying in hospitals and workhouses, applications for them should be made to the matrons of these institutions.

In all cases a wet-nurse should be examined by a doctor before she is engaged, in order to ensure as far as possible that she is a healthy woman, capable of giving her nursling a sufficient supply of wholesome milk. A wet-nurse should be from twenty to thirty years of age and free from all obvious disease. Her skin should be healthy showing no eruptions nor scars, her teeth should be sound, her gums and her tongue clean.

The mucous membrane of the mouth should be pink, not pale in colour. There should be no swollen glands in her neck, armpits or groins. The breasts should be well formed, firm and elastic, but not overlarge and fat.

The nipples must be well formed so that the baby may seize them easily, and they must be free from cracks and sores.

The milk should flow readily on gentle pressure from the circumference of the breast towards the nipple. If possible an ounce of milk should be thus expressed so that it may be analysed.

The woman's infant should also be examined, for its condition is important evidence both of its mother's health and of her fitness to take charge of a baby. The fact that the nurse's baby has to be deprived of its mother and of its natural food should suffice to deter a lady from seeking a nurse for any reason short of absolute inability to rear her child by other means.

Artificial foods should not be given until the child is seven or eight months old because his organs are not capable of digesting it during the earlier months.

Meat and fish should not be given at all within the first twelve months and are better avoided until the end of the first dentition at about two and a half years of age.

Care of the Mouth

The care of the mouth is very important from the first days of life. The little infant has a scanty secretion of saliva and does not readily use its tongue to clear away particles of milk from the gums and the inside of the cheeks. It is therefore necessary to carefully cleanse the mouth after each meal. If this is not done there is an increased liability to sore mouth and thrush on the part of the infant and to sore nipple and abscess of the breast for its mother.

After a few months the flow of saliva increases and the

baby "dribbles," not having learned to keep its mouth closed. About this time a red, swollen and tender condition of the gums announces the commencement of dentition and attention to the cleanliness of the mouth will do much to promote health and comfort.

Dentition The milk teeth are cut in groups.

1. Two lower central incisors at about 7 months.

Interval of three to six weeks.

2. Four upper incisors between 8 and 10 months.

Interval of one to three months.

3. Lower lateral incisors and two upper and two lower front molars between the 12th and 14th months.

Interval of two or three months.

4. The canine, or eye, teeth between the 18th and 20th months.

Interval of several months.

5. The four back molars, two in the upper and two in the lower jaw between the 24th and 30th months.

This completes the set of temporary or milk teeth, twenty in number and marks the end of infancy and beginning of childhood. The permanent teeth appear between the 6th and 10th years beginning with four back teeth about the 6th year. The mouth must be kept scrupulously clean and as soon as possible the child must be taught the use of a tooth brush. No dentifrice should be used but an abundance of tepid water. The teeth should be constantly inspected and any irregularity or discolouration should suggest a visit to the dentist. The beauty and health of the individual depend largely on the adequate development of the jaw and the soundness of the teeth. Decay of the temporary teeth and their premature removal prevents the proper development of the jaw. Neglect of the teeth may also lead to many serious illnesses. It is not sufficiently recognized that a decayed tooth swarms with micro-organisms, some of which are capable of producing lamentable results. Some cases of septic disease of stomach and bowels, of swollen glands in the neck and many of dyspepsia, anaemia and chronic ill health are due to decayed teeth.

It must be remembered that during dentition the child's nervous system is more than usually unstable and that irritability of temper and fretfulness are indications of discomfort rather than of naughtiness. The child generally appears less well than usual and frequently loses his appetite while he craves for cold water. It is well that the appetite fails for a time for the digestion is usually poor and the bowels are apt to be disordered, therefore little food can be profitably taken. The child's growth and increase in weight are also checked but no alarm need be felt. These alternations of growth and arrest are physiological.

The Bowels. The condition of the bowels is an important factor in the health of the child. For the first two or three days after birth the stools are greenish black in colour, the material having accumulated in the bowels during the last few months before birth. When this has been discharged the motions should have the appearance of freshly made mustard and should be gently squeezed out by the bowel. Up to the age of two or three months the bowels should be relieved about four times in twenty four hours. As the child grows older the number of actions diminishes and the character of the stools approximates gradually to the adult type but so long as milk is the chief food the colour remains yellowish. If the stools are deficient in quantity, or if they are unduly solid, the condition of constipation is present (see page 38), on the other hand there may be too frequent discharges and abnormal characters of the faeces (see article on diarrhœa, page 41).

The Bladder. A young baby empties its bladder often, especially after food, and although the frequency decreases with age it is often temporarily increased during teething. The baby's urine is generally very clear and pale. It has no odour and should not stain the diapers. If any tiny red grains appear it probably means that the child has too much milk or other food and too little water to drink for these red grains are uric acid and show that the kidneys are not sufficiently washed out.

The child should be taught to attend to the wants of his body, and an attentive nurse will teach a child to ask by signs to be taken up long before he can speak, much may

be done by watchfulness. After the first few weeks the child seldom passes water in his sleep but on awakening, If he is taken up and held out at once the foundation of a good habit is laid.

Circumcision. Some boy babies show discomfort in passing water, which may be due to a peculiarity in the little organ called the penis. The fold of skin at its end should slip back readily, but if the opening is too small it cannot do so. In such a case the trifling operation of circumcision is necessary. It must not be postponed, and involves no danger. (see page 91).

Dress. A baby's clothes should be as simple and comfortable as possible. During the first years of life, a flannel or better still a knitted binder serves to maintain an equable warmth of the abdomen and gives some slight support. It must not be put on tightly or it interferes both with respiration and digestion and does the child harm. The hard cotton swathe should never be used, it is a relic of barbarism.

Fine lawn shirts were formerly put on next to the binder. They are not necessary and only complicate what is at the best a tedious performance.

Napkins can be made of fine diäper to wear next the skin and over them large squares of turkish towelling. A quite ideal napkin is made of a triangular piece of Gamgee tissue. This consists of absorbent wool between folds of gauze. The only drawback is the expense, for once wetted or soiled it cannot be used again.

For older babies a little triangular calico pilch may be used, a pattern of this garment can be had from Mrs Ballin (Editor of 'Baby').

The next garment is a long petticoat and bodice made in one piece. It is usually made with shoulder straps but would be better with long sleeves. Its length permits it to be folded over the child's feet which it keeps warm and snug. No other petticoat is necessary but when the frock is made of transparent material there must be a slip of white silk or nansook as preferred. The frock may be of any material, but some soft woollen stuff like cashmere or voile is better than muslin. Silk may be used by those who like it. The frock should be made with high neck and

long sleeves to defend the child from chills and from the attacks of insects. A little knitted vest of shetland or andalusian wool is useful to wear over the frock in very cold weather, and under the cloak out of doors.

The feet should be kept very warm, usually fine woollen socks or boots are worn. A soft shawl or large square of flannel is used to protect the child from draughts in the passages and staircases but should not be used in a warm room after the first few weeks.

From the commencement of life the child must be accustomed to fresh air, the necessary warmth of body must be secured by plenty of light, soft, woollen clothes and suitable food, but the windows should be open more or less night and day, winter and summer. There are many contrivances for securing fresh air without draught such as a false bottom of wood to the window which causes the upper and lower panes to overlap and so permits an upward current of air, an inch wide strip of unbleached cotton wadding laid between the sashes secures the ingress of fresh but filtered air and enables the window to be kept open even in foggy or windy weather.

After three months, when the baby is gaining muscular power and wants to kick and move its limbs freely, the long garments must be put away but the short clothes should be made in the same simple fashion. The knitted binder may still be worn and over it a knitted or woven vest, high necked and long sleeved. Next a swansdown or substantial calico bodice coming as low as the hips and bearing two rows of buttons one about the level of the waist and one two inches lower. To the lower row knickerbocker drawers can be buttoned while the upper is reserved for the attachment of a petticoat. Thus should these garments need changing it does not involve the entire undressing of the child.

When the little one begins to crawl, and still more when learning to stand or walk, the petticoat must be replaced by outer knickerbockers which give the limbs free play and avoid many of the falls and bruises that are inevitable when petticoats are worn.

Little infants wear much the same sort of clothes by night as by day but older children should have flannel sleeping suits with the trouser part detachable.

Delicate children and infants should not be put to bed between cold sheets, jaeger sheets or fine blankets are far safer.

Boots and shoes must be carefully selected, they must be long enough as well as wide enough with square toes and a straight inside edge. The heels must be broad and low and the material pliable but strong. As a rule it is best to have the outline of the foot taken and the footgear specially made. Boots and shoes lined with jaeger cloth contribute to the health and comfort of the child, keeping his feet warm and preventing the onset of chilblains.

Head-gear is as important as the rest of the clothes and needs to be adapted to the child's age and to the climate. For little infants, boys as well as girls, nothing is so comfortable as a soft hood of woollen or silk material and nothing is more unsuitable than a thin muslin or lace cap ! For older children hats soft enough to be comfortable, close fitting for winter and shady for summer, should be selected not the highly starched sun-bonnets with their flapping brims and prickly embroidery. They are not thick enough to protect the head from the sun nor are they comfortable to sleep in.

CHAPTER II

NURSING

The management of children in illness needs a special application of ordinary gifts and knowledge. For all cases of serious illness and in all infectious cases, the care of the sick room needs two sensible, reliable women, one of whom at least should be a trained nurse. The mother, under ordinary circumstances, will wish to be with her sick child but if she once takes up the nursing of an infectious disease she must be prepared to delegate all her other duties and to remain in absolute quarantine. No one person can properly nurse a case of severe illness, infectious or non-infectious. No one can remain on duty day after day and no healthy person should eat or sleep in the sick room, hence the necessity for two attendants.

Special Room. In a large house where one or two rooms can be set aside for the purpose it is a good plan to have a permanent sanatorium which can be ready for occupation in the time that it takes a fire to warm the room.

If possible the room should be on the top storey and should look south or west.

The walls. The walls should be painted and varnished or distempered, not papered. The floor must be bare boards well caulked or covered with linoleum.

If there were a room opening out of the sanatorium, and if a bath-room and closet were at hand the arrangement would be perfect. In any case as soon as there is a need for isolation one or two rooms should be immediately prepared. All superfluous furniture should be removed,

Two beds or cots. leaving in the room two narrow bedsteads furnished with wire wove mattress, hair mattress and ordinary bed clothes. They should have no hangings at all. The windows should be draped with common cotton, or cheap lace, curtains that may be burnt when done with. The carpet must be removed and the boards wiped over with a cloth wrung out of one in twenty carbolic lotion. If necessary for the comfort of the attendant there may be one or two cheap rugs which can be cleaned daily and burned at the end of the case. There should be a plain washstand with the ordinary crockery, a chest of drawers to contain bed linen and the invalid's personal clothes.

Furniture. A wooden table with two drawers, in one of which the temperature chart, thermometer, pens, pencils, paper and ink can be kept ready for use. In the other all the minor nursing requisites such as cotton wool, lint, gamgee tissue, strapping, pins and safety pins, housewife and thread. Two pairs of scissors one stout and cheap, to be kept for cutting dressings, strappings, etc., the other a pair of surgical scissors, (a collapsible tube of hazeline cream, one of carbolic vaseline and one of plain vaseline) a pair of dressing forceps and a pair of well made "dissecting" forceps useful for extracting splinters of wood or stings of bees etc. Finally a bath thermometer. The drawer might have a frame with compartments easily made by any one with an elementary knowledge of carpentering. There should also be a shelf for the necessary crockery, and arrangements for the simple cooking that will be needed. The crockery and other utensils used in the sick room must be kept there and washed there, they must not be mixed with the household stock. Two comfortable bent-wood chairs and wooden or cane foot-stools for the nurse are necessities not luxuries. A tin bath long enough to receive the patient lying down but not too deep should be in the anteroom or in the sick-room if there is only one room available.

Two kettles will be needed unless there is a fixed boiler. A big kettle, or a fixed boiler, will provide water for baths, washing etc., while a small light kettle may be boiled over a spirit lamp for cooking purposes. Two or three enamelled,

or fire proof china, saucepans and several bowls will be needed.

Coals should be done up in paper packets of suitable size and a strong walking stick should take the place of a poker. If possible the grate should be a slow combustion grate with tiled hearth on which food and various nursing appliances can be kept warm. The expense of such a grate is soon saved in the economy of fuel and is a real boon to the nurse, as it needs little attention, it is also of great advantage in securing an equable temperature. A further valuable point in a tiled fire-place is its rapid and easy cleansing with a damp duster; the reduction of dust to a minimum and the gain to the patient of no noisy daily treatment with black lead are also advantages.

An ordinary thermometer should hang in the room out of the immediate influence of the fire and also out of draughts because an equable temperature must be maintained at the degree desired by the doctor. In most diseases the tem-

Temperature. perature of the room will probably be ordered to be kept between 60 and 65° F. but in some cases, such as bronchitis, it may be necessary to maintain a temperature of 70°. The temperature must be registered by a thermometer (maximum and minimum) which should be hung over the patient's bed. Two other thermometers are needed in the sick room, one for the bath and one a clinical thermometer.

The window is best shaded by two sets of short muslin curtains which run on light brass rods so that any part may be shaded or left free as is desirable. In addition to these muslin curtains there must be a roller blind of dark blue or dark green linen, so that the light admitted can be easily adapted to the patient's requirements, sometimes it is well to admit the free sunlight to the room while the patient's face is shielded by a paper screen or some thin dark cotton material hung over a clothes-horse. It is always to be remembered that there is no disinfectant so powerful as direct sunlight and that the more pure air and sunshine admitted to a sick room the better it is for the patient and the nurses. Ventilation may be secured by a Hinchies Bird window board.

The furniture of the sick room should include one or

more clothes-horses on which garments and sheets can be aired. When there are two rooms they can be placed in the second or anteroom.

In cases of infectious or communicable illness, a sheet wet with one in twenty carbolic lotion should hang over the door to prevent the escape of infected air into the house and great care should be taken to secure ventilation by opening the staircase and passage windows.

Disinfection. All linen and clothes from the sick room, and those used by the nurses should be put at once into a bath, or tub, and completely immersed in a solution of one in twenty Carbolic Acid or other reliable disinfectant. They should be sent to the laundry in separate receptacles from those containing the household wash.

of clothes. In cases of infectious illness, the nurses should not mix with the rest of the household, and when going out should wear other clothes than those they use in the sick room. They should be very careful to wash their faces and hands constantly, to take a bath every day, and to use an antiseptic mouth wash and gargle.

of nurse. All excreta (urine, vomit, motions, etc.) must be carefully received into glazed earthenware receptacles and mixed with a strong disinfectant such as Pasteur's Fluid, Sir William Burnett's disinfecting fluid or Solution of Chloride of lime or solution of Carbolic Acid one in ten. The receptacle should be covered with an earthenware cover and left to the action of the disinfectant for a quarter of an hour and then its contents should be thrown down a closet that is not being used by the rest of the household. The drain should be flushed twice daily and large quantities of the coarse, cheap carbolic used for drains should be thrown in after each quantity of excreta.

of excreta. Much can be done during the progress of the disease to lessen the violence of the infection, partly by the destroying influence of direct sunlight, partly by diluting the infected atmosphere of the sick room with an abundance of fresh air. In the case of fevers

accompanied by an eruption such as scarlet fever or measles, disinfectant pomade should be applied to the whole surface of the invalid's body.* This helps to destroy the infection in the skin and also prevents small dry flakes of infected epidermis from contaminating the surrounding air. The peeling process will be greatly assisted and the period of convalescence shortened. Japanese paper handkerchiefs or squares of butter muslin or lint should take the place of ordinary handkerchiefs in all cases of illness with nasal discharge.

Daily baths are useful not only for the refreshment of the patient but by removing infected particles and assisting the action of the skin they make the final disinfection easier.

Final disinfection. At the end of the illness, when directed by the doctor, the patient should have at least three special baths. The first bath must be given in the infected room, then the patient is wrapped in a clean warm blanket and carried into a non-infected room where the second bath is administered. He should not return to the infected room and the bathing can be repeated several days in succession. The Condy bath is probably the best.*

In most cases of eruptive diseases, especially Scarlet fever and Small Pox, the hair should be cut close or the head shaved at the commencement of the illness. It is much more comfortable for the patient and greatly facilitates the disinfecting process.

In addition to the thorough washing of the body and head careful attention must be paid to the ears, nose and throat for undoubtedly infection lingers long in these parts, especially in cases where there is a discharge from them. Syringing, spraying and painting with disinfectants is necessary.

After the bath the patient must be dressed in clean clothes free from all infection, but even then he is not to mix with other children, quarantine of about two months must be observed and the patient must be as much in the sunshine and fresh air as is possible.

Bedding, rugs, clothes, and all such things should be sent to be disinfected by steam or hot air. All metal, earthenware and enamelled utensils must be soaked in Carbolic lotion one in twenty and left in it for 24 hours.

* See footnote, p. 48.

Books, toys and surplus of nursing appliances such as cotton wool, lint and bandages must be burned.

If the walls of the room are painted or varnished they can be scrubbed with disinfectant or disinfected with formaldehyde; but if they are papered the paper must be stripped off after the disinfection and new paper hung. All wood work, and the floor, must be scrubbed and disinfected, the ceiling scraped, white-washed or repainted.

Method of washing sick children. Little children who are easily lifted are washed most thoroughly and comfortably by letting them lie full length in the bath covered by the water all except the head and face.

Bigger children and even little ones under certain circumstances such as acute bronchitis or a broken bone etc. are best

Blanket Bath. washed between the blankets, the so-called blanket bath. A warm, dry, blanket is passed under the patient and two more are laid over him, then his ordinary coverings are withdrawn. The nurse has two basins of warm water one of which may be mixed with aromatic vinegar, ordinary vinegar or eau de cologne. This basin also contains the mass of cotton wool which is to be used like a sponge in rinsing off the soap. In the other basin is also a mass of cotton wool and the water should be previously rendered soapy. Several warm dry towels should be at hand, also Vinolia powder, and in fevers with a rash, a saucer containing enough of the antiseptic pomade. When all is ready the patient is washed and dried first the face, then the ears and neck, the chest, right arm, left arm, abdomen, the back and buttocks and finally the legs. Each part is washed separately, dried and carefully wrapped in clean gamgee tissue or flannel before proceeding to the next but the anointing is left to the last because the nurse would lose time in freeing her hand from the unguent. After the back is washed it must be carefully examined for any red or tender area which might show a tendency to become a bed sore, other parts liable to formation of bed sores are the elbows, hips, the skin over the bones of the pelvis in front and the heels. In cases of prolonged illness as in Typhoid and in all cases of profound weakness

Prevention of Bedsores.

as in Typhus, this examination must be made very carefully. The best way to prevent bedsores is to keep the patient clean and dry, to rub the threatened parts with Brandy and salt, or Eau de Cologne and glycerine, or olive oil and methylated spirits in equal proportion. When the skin is thin and shiny it should be painted very carefully with flexible collodion. Sometimes the pressure can be relieved by India rubber cushions with a central hole or by little rings of wadding or elastic cotton wool called tamponite (not the absorbent cotton which is very little elastic).

In cases of very high fever it is often useful to sponge the patient with cold, or even iced, water or with **Cold Sponging.** an evaporating lotion such as Rectified spirit, one part to water three parts, or Eau de Cologne and water. In these cases the surface is exposed for a few minutes to the air, not carefully wrapped up as in the blanket bath.

Cold Pack. Sometimes cold packing is used, the patient lies on a mackintosh sheet, his clothes are removed and he is wrapped in a sheet or many towels wrung out of water at any desired temperature, over this wet pack a dry sheet is thrown. The temperature should be taken in the bowel and the patient should be taken out of the pack when it falls to 102° .; the doctor may of course give special directions in any given case. These remarks are for general guidance only.

Hot Pack. The hot pack is used when the surface circulation needs assistance, for instance, in some of the fevers when the rash comes out imperfectly, and in kidney disease when the amount of urine passed is much diminished. The patient lies between blankets a waterproof being under the lower blanket, a sheet is wrung out of hot water, about 104° F, in this the patient is rapidly rolled up, over it is a thick warm blanket, thoroughly wrapped round and tucked tightly up so that the patient is swathed like a mummy, over this two or more blankets may be placed.

Graduated Baths. Graduated baths are more easily given to children than to adults, the patient is lifted upon his sheet, and lowered into a bath of the temperature ordered usually about 90° F.

His temperature is known at the time and is constantly observed while in the bath. Colder and colder water is added the warm water being removed from time to time.

In India it is often necessary to add ice or ice water to get the bath down to 60°. The degree of cold desirable does not however depend on the temperature of the bath but on its effect on the patient. The patient should be removed and replaced in bed on a mackintosh sheet covered with a turkish bath sheet, as soon as his temperature falls to 102° F. and sooner should any signs of distress be observed. At the end of the bath the wet sheet on which the patient has been lifted in and out must be withdrawn, he should be rapidly dried with fine soft towels and a clean dry garment put on pinafore fashion to avoid unnecessary disturbance. The bed covering should be light. If there is any collapse, as shown by blueness, shivering, or a feeble pulse, a hot bottle may be put to the feet and possibly some hot fluid may be given by the mouth. This should usually be hot milk or hot milk and water. Stimulants, such as wine or brandy, should not be given unless ordered by the doctor. When ordered brandy should be given in small doses, three drops or so to an infant up to a teaspoonful for children about twelve years of age. It should always be given in hot milk or hot arrowroot, corn-flour or gruel of some kind.

Mustard Bath. The Mustard Bath is made by mixing one ounce of mustard to each gallon of water. The mustard should be made into a paste and stirred gradually into the water or it may be tied up loosely in a piece of muslin and moved about in the water into which it dissolves.

Application of heat and cold. When the whole surface needs cooling the cold sponge or graduated bath may be employed but sometimes it is necessary to cool a hot, aching head or an inflamed joint to which these general methods do not apply.

Leiter's Tubes. Leiter's Tubes This is a coil of flexible tubing like gas tubing which may be moulded by the hand into any shape so as to be applied as a hollow hemisphere to the head or fitted over the knee,

the shoulder, or the abdomen, both ends of the coil are fitted into india-rubber tubes one of which is fixed in a large jug or tin of water placed on a shelf or hooked to the wall two or three feet above the level of the bed. The tube at the other end leads into a pail or footbath under the bed. The upper tube is filled by syphon action and from that time the water at any required temperature flows through the upper india rubber tube, through the coil of flexible pipe and through the lower tube into the pail under the bed. The temperature of the water should not be too low or the skin may be injured.

India rubber bottle. Another method of applying cold is to partly fill an india rubber hot water bottle with cold or iced water.

Ice bag. In severe cases, an ice bag, easily improvised out of a sponge bag or piece of mackintosh should be employed.

By these methods all chance of wetting the child's bed and clothes is avoided.

If the water is iced a piece of lint should intervene between the pipes, or the india rubber, and the skin.

Another method which can be improvised anywhere is to lay a piece of lint or old linen on the part and then divide a skein of darning cotton or of wool, put one end into a jug of water and keep it immersed by tying it to a weight such as a curtain ring. The other end of the skein is separated into its threads and they are distributed over the lint or linen.

The quantity of water which is regulated by the number of threads employed should be just enough to keep the lint moist but not dripping. If necessary the water can be iced or any evaporating lotion may be used.

Local application of heat. When it is desired to warm the feet it is usually done by means of an india rubber or stone ware or tin hot water bottle, sometimes by means of a hot brick. In any of these methods great care must be taken to wrap the source of heat securely in a small blanket or shawl, for the tender and perhaps ill nourished skin of a little child is very liable to be burnt if brought into contact with a heated

body. Especially is this the case if the child is unconscious from illness, or as the result of an anæsthetic. The ordinary flannel or felt cover of the bottle does not suffice, additional protection may be afforded by the interposition of a thick layer of cotton wool. Also the bags, etc. should never be filled with boiling water which injures the india rubber. Irreparable harm may be done the child in a few minutes unless the former rule is observed.

Heat may be applied to the chest, back and abdomen by means of Leiter's tubes, hot water running through them instead of cold, also by hot water bottles. Sometimes a bran poultice made of hot bran enclosed in a flannel case is used. Moist heat is very difficult to manage and the time honoured linseed poultices and bread and milk poultices are seldom used at present. Fomentations are more convenient, and if a part of the body is well fomented and then covered with hot cotton wool the heat is long retained.

In houses where electricity is installed a safe, constant, and very convenient source of heat is the **Electrotherm.** This source of heat looks something like a hot water bottle in a felt case and being flexible can be applied to any part of the body.

Ordinary poultices are objectionable from their weight, from the certainty of wetting the bed clothes and the night clothes, and from the risk of chill when they are removed as the skin becomes sodden from their application.

Hot cotton wool. Enveloping the part in hot cotton wool and keeping it in place with a bandage is very satisfactory and involves little disturbance of the patient which is sometimes a matter of great importance.

Feeding of sick children. In ordinary cases of illness although appetite may be lost the child drinks readily and sufficient nourishment is taken. In some exceptional cases, especially where the throat is affected, drink is refused and in others where the stomach is much disordered and vomiting is present it may be unwise to introduce food into that organ. It may also be mentioned that melted jelly forms an excellent vehicle for plasmon, milk, wine, or meat essence. The jelly and the

substance it contains slip down easily and cause less distress than ordinary soft solids or liquids.

Nasal feeding. In the former set of cases it is necessary to feed the child through the nose. To do this wrap the patient in a bath sheet and pass a small-sized flexible catheter through the nose. The catheter is connected to a small glass funnel by a suitable piece of india rubber tubing. The catheter passes easily along the floor of the nose and glides into the back of the throat. Its end is thus behind and below the opening into the air passages and food or medicine can be safely poured into the funnel and is conducted into the gullet *en route* to the stomach. This little manœuvre is really quite simple and can be done by any steady and intelligent person. It is far safer than the alternative of passing the tube along the tongue and so into the gullet, for by this latter method the end of the tube may unfortunately enter the air passages so that violent coughing and choking are produced.

Rectal feeding. In cases where even peptonized food is rejected by the stomach the child must be fed by the bowel.

A ball syringe capable of holding two to four ounces and fitted with a fine flexible nozzle is filled with peptonized milk, or other fluid food, at the temperature of 106° F.

The nozzle is lubricated with plain vaseline or hazeline cream and gently passed into the bowel as far as it will go without the use of force. The bulb is then very gently squeezed and its contents are slowly injected into the bowel. The nozzle is then gently with-drawn. The buttocks should be pressed together and the opening of the bowel supported by pressure with a fine diaper for some few minutes until the tendency to strain and empty the bowel has passed away. Quite as good as the ball syringe is a piece of small flexible catheter connected to a glass funnel by india rubber tubing. Sometimes the bowel will not retain fluid food and then nutrient suppositories of zymised milk must be tried. Unfortunately the rectal feeding of children is very unsatisfactory and cannot be long continued. Children are more dependent on food than are adults and show more quickly the results of semi-starvation. Still rectal feeding is sometimes invaluable for a time.

In most cases of chronic illness, and in European children in tropical climates, there is often much difficulty in selecting food which is at once suitable to their needs and acceptable to their palates. Many sick children cannot take sweetened food and not unfrequently it is only custom that makes us so sure as we seem to be that sweet things are good for children. Great patience is necessary in dealing with children and many devices such as varying the diet, cutting up and mixing the food, and feeding the child with a spoon may be necessary even in the case of children eight or nine years of age. Such entire lack of appetite in the absence of definite illness always points to something wrong in the child's constitution or surroundings and in the case of children living in bad climates points with certainty to the immediate removal of the child to a more suitable home. Temporary reluctance to take food usually means a passing ailment, such as a heavy cold, an upset stomach or liver. Sometimes it indicates excess of excitement. The nervous system in children is very unstable and they are easily put off both food and sleep by some small pleasure or pain that would pass unheeded by adults. Want of exercise also impairs the appetite, partly because the natural changes in the body progress slowly when exercise is not taken, and partly because want of exercise causes constipation.

As a rule sick children should be allowed to drink when they are thirsty but the quantity should be limited and only as much as is considered right for one drink should be poured into the cup or feeder. It is cruel to fill the vessel and then order the child to stop drinking before he has emptied it. Suitable drinks for children are pure cold water, Barley Water, Toast Water, Home-made Lemonade and Orangeade hot or cold. Sometimes the doctor may order "Imperial Drink," it is very cooling and is generally liked by children but must not be given in cases of Diarrhœa.

Administration of drugs. Medicines for children should be as palatable, and as small in bulk, as possible. Very little children seldom swallow pills, they suck them; consequently until a child has learned how to swallow pills, capsules and cachets, these convenient vehicles are of no use in his treatment.

Powders, unless small in bulk and not nasty, are also

difficult of administration but the small doses of Grey Powder or Calomel given to children pass unchallenged in a little syrup or honey.

Liquorice powder mixed with hot milk is seldom disliked and even Castor Oil can usually be taken if shaken up in a small well corked bottle with a tablespoonful of hot sweetened milk. It should be taken at once before the oil has time to separate from the milk. Sometimes Castor Oil is given rubbed up with a little gum arabic and then flavoured with peppermint. This disguises both the oiliness and the flavour of the drug and makes it as a child said to me "like a buttered peppermint." Fluid Magnesia is almost tasteless and can be given in broth or milk. So too can the tasteless Phosphate of Soda in doses of one to two teaspoonfuls. Sometimes Rhubarb is the drug which is evidently needed to correct a disordered stomach. It is a drug whose flavour is very much disliked by children and which cannot be concealed, older children will take the extract which is effectual and small in bulk and both they and babes can take Rhubarb Wine or Tincture of Rhubarb. No one can pretend that it is nice, or that it is tasteless, but few children over three years of age will refuse to take any medicine when they are properly treated. To give children medicine by force, or to try to cheat them by false assertions that nasty medicine is nice, leads to failure and deserved failure too. It is best to prepare the medicine where the child does not watch the process and does not smell the nauseous drug. It should be given in a small coloured glass so as not to appear thick and loathsome and then the child should be told that the medicine though unpleasant will do him good, that it will be soon swallowed, and that it has to be taken at once. If the child has been trained to obedience it is wonderful how easy is his management when he is ill. A small piece of sugar or an acid drop will quickly remove the taste from the mouth. It is also well to wash the mouth with cold or iced water before and after the administration of medicine.

A popular cough medicine for children is honey and lemon juice or vinegar and golden syrup. Equal parts of these substances should be boiled together in a little saucepan and if it is ordered a few drops of Ipecacuanha Wine

can be added to each dose. The mixture alone is too strong and should be slightly diluted with water. Linseed Tea and Currant or Tamarind tea are useful for coughs and colds and are often given in the catarrh of Measles, Bronchitis, and Whooping Cough.

The bowels are best regulated by the diet.

CHAPTER III

DISEASES OF THE DIGESTIVE SYSTEM

INTRODUCTION	MUCOUS DISEASE
VOMITING	DYSENTERY
CONSTIPATION	WORMS
FLATULENCE	THRUSH
DIARRHŒA	PERITONITIS (and APPENDICITIS)
HERNIA (RUPTURE)	

Dyspepsia or indigestion is responsible for many of the illnesses of childhood, the condition of mal-nutrition rendering the child unable to resist attacks from without, especially the invasion of tubercle or such generalised conditions as rickets.

Among the signs of indigestion are pains in the abdomen or chest, a sense of weight and uneasiness, a furred tongue, muddy complexion and general want of condition. Many ailments often considered illnesses in themselves are really symptoms of indigestion; for instance vomiting, constipation, flatulence and some forms of diarrhœa.

Hiccough occupies a debatable position for while it is certainly a spasmodic ailment and therefore "nervous" it is usually excited by indigestion—

It is easily arrested in most cases by distracting the patient's attention—thus we give babies a grain or two of sugar while older children are told to hold their breath, to squeeze the little finger, or are allowed the pleasure, and profit, of a peppermint lozenge.

Indigestion. In all cases of sudden and acute disease apparently due to the digestive organs the child should be put to bed and all ordinary food must be withheld.

Parents are naturally distressed if a child has abdominal pains, vomiting or diarrhœa; equally naturally their first impulse is to feed the child but as a rule to give food under these circumstances is simply adding fuel to the fire. Having put the child to bed and having made it as comfortable as possible with light blankets, hot bottles, and hot fomentations it is wisest to wait for the doctor and to give neither food nor drugs until he arrives.

There are only two exceptions to this rule one is the case in which it is known that the child has undigested or improper food in its stomach. Here the administration of an emetic such as a draught of tepid salt and water or a dose of Ipecacuanha will probably save hours of suffering and possible danger.

The second exception is when the bowel evidently contains some cause of irritation such as hardened fæces or undigested food. Then an enema of castor and salad oil mixed with hot peppermint water (see appendix) may avert exhausting colic and inflammatory diarrhœa.

Vomiting. Vomiting is one of nature's methods of relieving the stomach of an excess of food or unsuitable food. When it is known that the contents of the stomach are harmful, vomiting should not be too quickly checked. Food should be withheld for some hours or until appetite returns.

Vomiting is also a symptom in many diseases—for instance some diseases of the brain, the stomach, the bowels, and in the onset of many of the acute infectious fevers.

The vomiting of brain disease has little relation to food and is not likely to follow excessive or unsuitable food because it generally occurs in children who are already out of health.

The vomiting of serious abdominal disease is longer continued and does not bring the relief that occurs in the simple evacuation of the contents of the stomach.

The vomiting which ushers in many of the infectious fevers is accompanied by other symptoms such as headache, sore throat, pains in the back and limbs and is associated with a persistent rise in temperature and pulse.

The vomiting of little infants is usually more of an over-

flow—it is not accompanied by effort or retching and the rejected food does not smell offensive. Milk of course curdles before it is digested and the gastric juice is very acid. The rejected food may therefore be curdled and sour without there being any real illness. The vomiting should be taken as a warning that too much food has been swallowed or that it has been taken too quickly.

Constipation is frequent in children and in most cases is caused by an unsuitable diet, especially by a deficiency of drinking water. In other cases it is due to deficiency of exercise and sometimes it seems to be hereditary or to depend on some peculiarity of the child's internal organs.

It is necessary to think what is meant by constipation in children. At birth the child should have four or five evacuations in the day. If then a young infant has but one relief in twenty four hours it is not natural. The motions at first should be of the colour and consistence of freshly mixed mustard. If they become hard and dry or are formed into cylinders or balls constipation is present. As the child grows older the number of stools in twenty-four hours diminishes until during the second year two stools a day is the usual number and from the completion of the second year one stool a day is the rule. The character also changes; the stools become more solid, gradually more formed, and the colour approximates to that of the healthy adult stool.

If a breast-fed baby is constipated it is well for the mother to alter her diet so as to influence her milk. She should take porridge with milk and golden syrup for breakfast, she should also take an abundance of fruit and vegetables and drink oatmeal gruel instead of plain milk or any of the foods made from wheat. The baby should have two or three teaspoonfuls of cold water or of glycerine and water twice or three times a day. When we have once realised the fact that milk is a food and not a drink we shall readily realise that babies may want water as their elders do.

Gentle massage of the child's abdomen is very helpful. It should be rubbed round and round beginning low down on the right side, up to the margin of the ribs then across the upper part of the abdomen and down the left side and

across to the starting point. This should be done for five minutes at least—night and morning, and may be done at any time ; especially when the child is distended with wind and appears to have abdominal pains. The effect of the rubbing is increased by slightly lubricating the warm hand with some aromatic oil—for instance with olive oil or vaseline containing one teaspoonful of cajeput oil to two ounces.

Another treatment for constipation is the application of a hydropathic belt—a handkerchief is folded in four and wrung out of tepid water. This is laid on a piece of waterproof larger than itself in every way and is kept in place by straps of tape. The belt is carefully adjusted to the abdomen and worn all night. Exercise is also essential but little children usually take plenty of it and so do all healthy boys but girls often take far too little. They sit about idly and get sluggish in body and mind. This is often the fault of those in charge of the children. Nurses and governesses realise that boys must run, and jump and climb but they think that these exercises are unladylike and likely to lead to torn clothes. Mothers should insist on their girls, as well as their boys, having freedom and ample opportunities for healthy exercise.

Growing girls like growing boys should be dressed in strong plain fabrics made into simple and roomy garments so that they may develop their limbs, purify their blood and grow up into really graceful well developed men and women. Drugs should be used as little as possible in the treatment of constipation—and when necessary should be ordered by the doctor. The more castor oil a child takes the more constipated will it become. Sometimes a little fluid magnesia, or liquorice powder may be given but every effort should be made to regulate the bowels without an appeal to drugs. Among simple remedies for babies none is better than Kepler's Extract of Malt of which a teaspoonful may be added to every bottle or to as many bottles in the day as may be necessary. Another simple resource is honey added to three or more bottles in the twenty four hours in quantities of half to one teaspoonful each. Older children also can take Malt and when necessary may have some combination of malt and cascara such as Byno Cascada or Kepler's Extract.

All babies suffer from flatulence though the breast-fed child suffers much less than those brought up on the bottle. Flatulence is sometimes caused by the child taking his meal too quickly, gulping down a mixture of air and fluid. In these cases relief is usually afforded by regurgitation of the contents of the stomach. In some cases flatulence is caused by the inability of the stomach to deal quickly and satisfactorily with the food. If the food is unsuitable, or excessive in quantity or if the stomach is not in good working order fermentation is likely to occur and the organ is distended with gas. At a later stage of digestion a similar process may occur in the bowel causing distention and griping "colicky" pains.

Errors of diet are not confined to infants, indeed older children frequently suffer from eating unripe fruit, acorns, and an excess of cakes and sweets.

Constipation is another common cause of flatulence.

To avoid flatulence, infants must be fed on suitable food at suitable intervals and older children must be taught that we eat in order to live and to work not that eating is the object of life. Healthy children should have their four meals a day and no food nor sweets between meals. Great harm is done to body and mind by intermediate feeding and by teaching the child habits of self indulgence.

Babies suffering from flatulence may be temporarily relieved by rubbing the abdomen with a warm hand and by the administration of a teaspoonful of aromatic water with a little boiling water and a pinch of sugar. If this fails to give relief an enema of one ounce of castor oil with an ounce of peppermint water is likely to succeed.

Distension of the stomach and bowels with food or flatus is one of the commonest causes of faintness—this should be remembered as unnecessary alarm is often caused. People think that fainting must mean that the patient is suffering from heart disease or some other serious malady whereas it is often caused by indigestion, an overloaded stomach, or exertion made too soon after a meal.

In cases of fainting let the patient lie flat or better still with the feet higher than the head, loosen all the clothes, sprinkle the face with cold water, and hold smelling salts some little distance from the nose—if held too close much

pain and inconvenience may be caused. Do not be in a hurry to give brandy and water or salvolatile, most cases do better without stimulants.

Diarrhœa is exceedingly common in children, especially in infants under two years of age. It is seldom seen in infants at the breast and then usually in consequence of illness of the mother or severe disturbance of her nerves. The chief cause of diarrhœa in children is unsuitable or excessive food, and especially when this has begun to undergo fermentation as for instance milk becoming sour, over ripe fruit, and tainted meat or fish. Food may commence to ferment before the child takes it as in these cases; or fermentation may occur in the stomach when it is unhealthy and too much sugar or farinaceous food is given. Fermentation may be present in the food when bought, or it may be set up by neglect in keeping it—for instance milk kept in vessels that have not been scalded or milk allowed to stand in the feeding bottles especially those with long tubes often becomes sour. Many other causes are alleged for diarrhœa, such as hot weather, bad drains, filthy ash-bins etc. They are certainly causes but chiefly because they cause, or hasten, this process of fermentation, (the changes in food due to the presence of certain microbes).

Feeding children on cow's milk has been said to cause diarrhœa; when this is the case it is due to the milk not being sterilized—or to the indigestion it too often causes. Indigestion is commonest in delicate children and weakens their powers of resistance to diarrhœa as it does to disease in general.

There are many varieties of diarrhœa but perhaps it will suffice to describe these that are commonest among children. Diarrhœa also occurs as a symptom in many other diseases such as typhoid, measles, and consumption when it affects the bowels, but with these cases we have nothing to do in this chapter.

Simple diarrhœa. In simple diarrhœa there is an increase in the number of stools passed by the child. They become thinner than normal and are sometimes greenish, or grey, in colour but there is little or no vomiting and the temperature does not rise.

Treatment. The chief point is to regulate the food. If the patient is an infant it should take nothing but breast milk—or if bottle fed, humanized milk that has been carefully sterilized. If the child is older it should have nothing but sterilized milk diluted or not with boiled water or lime water. A flannel binder should be applied and the child should be kept in bed until all looseness ceases.

The best medicine is castor-oil—dose half to one teaspoonful for an infant under a year old and up to two teaspoonfuls for older children. This may be followed by a small dose of paregoric five drops for a child one year old two or three for younger infants.

When the diarrhœa is subsiding a little stomachic mixture may be given twice or three times a day before food such as,

Rhubarb wine 5 to 10 drops.
Bicarbonate of soda 3 to 5 grains.
Glycerine 20 drops.
Peppermint water a teaspoonful.

Acute Inflammatory Diarrhœa.

Acute inflammatory diarrhœa generally appears when the weather is hot—the thermometer standing at 60° F or higher. It is most prevalent in cities and in the unhealthy parts of cities, among the illnourished and sickly children of the slums but it will develop wherever the germs of disease have access to the milk supplied to the children.

The onset of the disease may be sudden and it may run a very acute and fatal cause—not unfrequently it attacks children who are suffering from simple diarrhœa and then its onset appears less sudden.

Symptoms. Infants seem at once very ill. They have a high temperature often 103° to 105° F. in the rectum. There is frequent vomiting, at first of undigested food and later of mucus and thin watery fluid. The motions are discharged with explosive violence and with much wind. They are thin, sometimes yellowish but often green, gray or brown and have a most offensive odour. Before each action the child is evidently in pain—he screams, struggles and draws up his legs. The

abdomen is hard and often distended. There are often nervous symptoms such as twitchings and even convulsions. With prompt and appropriate treatment the disease will often abate quickly and the child be convalescent in a few days but if untreated, or if the nature of the case is not understood, the end is rapid and fatal. Older children are seldom so suddenly prostrated and in them the disease is more amenable to treatment and runs a milder course.

Treatment. Abundance of fresh pure air, and where possible cool air. Removal of all sources of infection such as decomposing food, soiled linen, and vases of cut flowers. A mustard bath should be prepared and the child held in it until the skin is slightly reddened. If it appears much collapsed a few drops of brandy may be given in warm water. Then the child must be placed in its cot and kept quite still. If the feet are cold a hot water bottle should be placed near them. The child should wear woollen socks, a flannel binder, and thin flanne night dress. The diet should be alternate feeds of chicken tea and white wine whey (see appendix formula) but where there is much vomiting the feeds must be greatly reduced in bulk or omitted for some hours until the extreme irritation of the stomach subsides.

In cases where it is possible, it is well to wash out the stomach with tepid water which has been boiled and cooled. It is often desirable to wash out the bowel also, but both these methods of treatment should be reserved for the doctor, as they need special knowledge and care.

Drugs. Where decomposing milk or other fermenting food has probably caused the illness, a dose of castor oil should be given early, otherwise small doses of Calomel about $\frac{1}{12}$ to $\frac{1}{8}$ of a grain may be given every hour for three hours* to a child one year old, it is very small in bulk and can be laid on the tongue without exciting opposition or nausea. Bismuth is also excellent, but much more bulky, about ten grains once in four hours is needed for a child one year old.

The administration of drugs should be left absolutely to

*Sometimes an ordinary cool bath or a graduated bath may be useful later in the attack. The initial mustard bath is given to rally the child from collapse.

the doctor, and no parent should attempt the care of so dangerous a disease if a doctor can be procured. Drugs are always two edged weapons; and their effect on the disease and on the patient, depend entirely on the wisdom with which they are used. This wisdom can be gained only by experience.*

Infantile Cholera is rare in temperate climates, but a few cases occur each summer in our large towns. It usually affects infants who are brought up by hand, and is generally preceded by indigestion or ordinary diarrhoea. Its course is even more rapid than that of acute inflammatory diarrhoea, and within an hour or two the child is, and appears, alarmingly ill. The face is pale, the eyes are sunken, the corners of the mouth are drawn down, the fontanelle is depressed. The general surface is cool, and the abdomen is usually soft and even hollow. The stools are frequent, very profuse, usually like dirty water, and offensive in smell. Vomiting is frequent, and sometimes comes on before the diarrhoea; it may be incessant and is greatly aggravated by food and drink. The child at first cries and moans pitifully—it is very restless and irritable, but soon it becomes quiet and listless, often stupid and even unconscious.

Although the surface is cool the temperature taken in the mouth or bowel is nearly always raised, and may be very high.

Treatment. The treatment of infantile cholera is extremely unsatisfactory, the progress of the disease is so rapid, and its nature so malignant that little hope can be given. Morphia or opium can be given hypodermically by the doctor, if one can be found in time. The mustard bath, and later a graduated bath may be used, and the bowel may be irrigated with cold water.

No food should be given except a very small quantity—only a few drops—of champagne or weak brandy and water. When these are vomited stimulants must be injected subcutaneously.

After the vomiting ceases minute quantities of chicken tea or white wine whey may be given with great caution.

* *Castor Oil Mixture*—A teaspoonful rubbed up with a little gum arabic, with a teaspoonful of Dill water, and Glycerine ten drops.

Dysentery is scarcely known in England and other temperate climates, although acute inflammatory diarrhœa resembles it to some extent.

Dysentery is common in India and other tropical countries. It is always the result of an infection which is most frequently conveyed by water.

Symptoms. The onset is usually sudden, and is announced by griping pains, much straining at stool, and the passage of motions mixed with slime and blood. Frequently there is vomiting and headache, also fever.

The abdomen is tender and swollen, and the end of the bowel may protrude, owing to the severe straining efforts.

The disease requires prompt and vigorous treatment, as its course is rapid and the termination often fatal.

Treatment. Put the child to bed and apply hot fomentations or belladonna and glycerine to the abdomen. Give a moderate dose of castor oil at once, and then castor oil emulsion every six hours, or a mixture of perchloride of mercury and bismuth. If the latter is given it will probably be necessary to give another dose of castor oil at bed time. Irrigation of the bowels with warm mucilage of starch or linseed tea is very useful. It washes away the irritating contents and soothes the bowel.

If the bowel is very irritable and the stools frequent, a small enema of starch, or arrowroot, and laudanum must be given from time to time.

The diet should be absolutely unstimulating—Peptonised milk diluted with Barley water, Benger's food, chicken broth or meat essences.

Stimulants will be needed if the attack is severe, and may be given in the form of good old brandy, or white wine whey.

There is some danger of confusing dysentery with inflammatory diarrhoea, but the treatment is very similar.

A more serious mistake may be made between some cases of stoppage of the bowel and dysentery. In both there is pain, straining and passage of blood and mucus, but in most cases of dysentery there is with the stools a strong penetrating odour suggestive of decaying meat.

This does not occur in intussusception. In either case the doctor should be sent for without delay as the time for hopeful treatment is limited.

Dysentery is always a formidable disease and reduces the patient greatly. One attack predisposes to another and in many cases the condition becomes chronic.

In chronic cases the best treatment is to send the patient to a temperate climate taking great care to protect him from damp, chills, and unsuitable food on the way. The most useful medicine is small doses of the castor oil mixture.* When the dysentery has been cured cod liver oil and malt and various preparations of iron must be given for many months.

In some cases where the fever runs high, much may be gained by sponging with water at 100° and the administration of small doses (1 to 3 grains) of the tannate of quinine in syrup or honey.

Mucous disease is not common in children at the breast nor in those who are fed chiefly on milk but it is frequent in those who take more farinaceous food than they can digest, and this is commonest between the ages of three and ten years. The disease consists in an over profuse secretion of mucus by the whole alimentary canal. This so interferes with digestion that the child's condition is one of semi-starvation.

The early symptoms of mucous disease greatly resemble those of water on the brain and other tuberculous illnesses. The child is ill nourished, thin, pale and listless. He is often drowsy in the day, but at night is restless and sleeps badly, starts much and grinds his teeth. Often he starts up with a loud cry, and appears wholly beside himself with fear. In vain is he caressed and soothed, he is possessed with his night mare, and for a time is unable to recognise his mother or nurse. In some cases of older children the habit of sleep-walking seems to develop from these so-called "night terrors" not unfrequently too, the child

Bedwetting. wets his bed and unless the disease is cured before the habit is formed, it will be very persistent and annoying. The child often squints and

* Or Liq. Hydrarg. perchlor., 20 drops; peppermint or dill water, 60 drops: to be given in water three times a day after food.

stammers. He jumps violently when startled, and altogether is considered to be "very nervous" while all the time it is his stomach and not his brain that is in trouble.

The appetite is often large but may be capricious or small. The breath is offensive, and the tongue pale and flabby.

The bowels are usually constipated. The stools may be frequent but usually contain much mucus in
Constipation. which are small hard balls of fæces. Frequently there is much straining, and when this is the case there may be prolapse of the bowel.

Prolapse of the bowel. The mucous membrane of the lower part of the bowel is forced through the anus and appears as a red tender mass, smeared sometimes with blood. The protuded mass is painful partly from the pressure round it of the ring of the anus and partly from the increased straining which it causes. The child should be laid on its back with its hips raised on a pillow. The red mass should be bathed with cold water and then smeared with vaseline or hazeline cream. Gentle and steady pressure will suffice to return it. A pad of cotton wool should then be applied to the anus and kept in place by a diaper or bandage fastened to the flannel binder. A child in whom this accident has occurred should not be allowed to sit on a commode nor to strain at stool. He must pass his motions lying down and the anus must be carefully supported by the nurses fingers applied on each side of the opening while the motion is passing.

Flatulent distension of the bowels is very common in mucus disease and often causes severe
Flatulence and colic colicky pains during which the child often turns very white and may sometimes faint.

The skin is dry, harsh, and badly nourished. The muscles are flabby and feeble, and the child both looks and feels miserable.

From time to time all the symptoms are worse, the little patient having what is termed "a bilious attack." That is to say that much mucus and other offending matters are dislodged from the stomach by vomiting and from the bowels by diarrhœa. After this the child is

better for a time but the mucus soon accumulates again and the patient grows constantly thinner and weaker. Very often mucous disease is complicated by the presence of worms, but although they may be removed by appropriate treatment mucous disease will not be cured until the diet is altered and the mucous membrane restored to health.

Treatment. The most important item of treatment is to stop food which causes fermentation and the out-pouring of the unhealthy mucus. All farinaceous food except a little crisp dry toast, or unsweetened rusks, must be forbidden and the child must live on meat, fish, eggs, milk and green vegetables. Suitable diets reprinted from Dr. Eustace Smith's book on the "Wasting Diseases of Children" will be found in the appendix.

It is very important to secure the healthy action of the skin and after a warm bath at bedtime the whole surface should be anointed with "aromatic oil"* or with glycerine and rose water equal parts. In the morning the child should be sponged with tepid or cold water while he stands in warm water, and then he should be put between warmed blankets and the whole surface should be gently rubbed or massaged.

Drugs are of much less importance than the diet but a little mixture of a few drops of Rhubarb Wine with carbonate of soda in aromatic water is very useful; and later on when the over secretion of mucus has been checked the various non-astringent preparations of iron will complete the cure.

Worms. Children who are badly fed and whose bowels are unhealthy are more likely to suffer from worms than are the healthy and well cared for. Still worms do not develop from unhealthy secretions; they flourish in them, but they are hatched from eggs which are sometimes swallowed in dirty water, or with unboiled and half washed vegetables, or, as in the case of the tape worm, the egg is conveyed in insufficiently cooked beef, pork or fish.

There are three kinds of worms which are commonly found in children. **Thread-worms.** so called because they look like little pieces of white

* Oil of cajuput, one teaspoonful; salad oil or vaseline, 15 teaspoonfuls.

thread; they may be seen with the motion in the chamber, or hanging round the opening of the bowel.

They cause much irritation both in the bowel and in the vagina in girls, this irritation is frequently accompanied with the discharge of mucus which may be blood-stained.

This condition needs very careful attention for the irritation caused to the genital organs naturally leads to attempts to relieve the discomfort and so bad habits are innocently and unconsciously acquired.

Treatment of Thread-worms. The bowel must be emptied as far as possible by a satisfactory purgative. For instance one or two grains of calomel, or of grey powder, with two or three of scammony, a full teaspoonful of Liquorice powder with one grain of calomel, or one or two teaspoonfuls of Castor oil will probably suffice. After the bowels have acted well an enema of infusion of Quassia or of salt and water must be given. The enema should be repeated after each action of the bowels for at least a month.

The opening of the bowel and all neighbouring parts should be thoroughly washed with hot soap and water then dried and smeared with some disinfecting ointment or pomade (see foot note, p. 48).

In the case of girls the vagina must be syringed and the lips of the vulva carefully anointed if there is any discharge, soreness, or redness.

Round worms. Round worms greatly resemble garden worms but are usually paler in colour. They vary in length from three to twelve inches and are seldom solitary sometimes they are found in great numbers. Unlike the thread worms they are not confined to the lower bowel but inhabit the whole length of the digestive canal and are sometimes vomited although more often expelled from the anus.

Symptoms. The symptoms caused by round worms are chiefly those of indigestion and catarrh; but sometimes the discomforts and pains caused by these creatures are very unexpected and have been known to simulate all sorts of diseases. In India, where round worms are frequent parasites, it is always worth while to ascertain whether the symptoms are due to them

before hastily treating the child for some graver malady—such as fever, stone, or dysentery.

Treatment. The treatment is very simple. Three to five grains of Santonine in a little white sugar must be given on three succeeding mornings as soon as the child awakens and before food or drink has been taken. With the third dose one or two grains of calomel should be given and after an interval some fluid magnesia or other mild aperient.

This treatment should be repeated after a week or ten days so as to remove any young worms which may have been hatched since the first treatment.

Sometimes Santonine causes sickness ; if so a smaller dose must be given. Sometimes the patient will complain that everything looks more or less yellow, and the urine will assume a deep orange colour. There is however no occasion for alarm, and these small inconveniences soon pass away.

Tape Worms. Tape worms are introduced into the human being by the eating of underdone beef, pork or some kinds of fish—especially mackerel.

They are not very common in little children, except in those who have had to be partly fed on raw meat juice.

Symptoms. The symptoms are much the same as those of round worms, but perhaps the signs of malnutrition are better marked. Attention is generally aroused by seeing small white pieces, or even lengths of the creature, in the chamber.

Treatment. Unfortunately the necessary treatment is disagreeable and not always immediately successful.

A full dose of castor oil should be given at bedtime, and after it has acted in the early morning a dose of oil of male fern should be given—twenty to thirty drops mixed with mucilage and peppermint water. Very little food should be given—a small cup of chicken broth or beef tea is the best, and about noon a second dose of castor oil.

Abundance of worm, many feet in length, may be expelled, but unless the head is dislodged and comes away, the whole creature will grow again. The head therefore, must be carefully sought. It is about the size of a pins head and the neck to which it is attached is no thicker than crotchet

thread. Care must be taken to wash and disinfect the hands after handling the worm.

This treatment is not to be repeated at any rate for some time. If it is feared that the head has not come away, an ounce of decoction of pomegranate bark may be given every morning fasting, and a dose of aperient once a week.

In all cases of worms it is likely that the child is suffering from dyspepsia and catarrh of the stomach and bowels. There are frequent accompaniments of mucous disease (see page 46). Therefore it is necessary to enquire into the child's diet and manner of life. To order suitable food and medicine at first to correct the dyspepsia and subsequently to renovate the blood and strengthen the patient.

For this purpose may be used the rhubarb mixture * and the various preparations of iron.

Stomatitis. The mouth of a newborn infant should be examined, and anything that is seen unusual should be mentioned to the doctor. When teething begins the gums may be red and tender, and sometimes little greyish white specks appear on the mucous membranes. Less frequently there is real ulceration of the gums, lips, and inner side of the cheeks. Much relief is afforded by scrupulous cleanliness of the mouth and by the application of Borax and Glycerine.† In more severe cases chloride of potash may be added to his mixture (10 grains to the ounce).

It is always well to give a little aperient medicine, such as fluid magnesia, when the gums are tense and swollen, and to be very watchful of the child's appetite and digestion. It will probably require more water to drink and less food than usual.

If the gums are much swollen and tense, great relief may be given by lancing them. The little operation, when done with a clean sharp lancet is scarcely painful and is devoid of danger. Relief certainly follows, and although it does not hasten the appearance of the tooth which may not be cut for weeks afterwards, lancing in no way delays the process. Scar tissue is even more easily absorbed than natural tissue.

The mouths of children should be very carefully watched. The mother should know how many teeth have been cut

* Rhubarb wine, 15 drops ; salvolalite, 7 drops ; glycerine, 3 grains ; dill water, 3 teaspoonfuls.

† Glycerine and boracic acid of the British Pharmacopœia.

and how many more remain to be cut. She must also notice any discoloration or decay of the teeth, any irregularity in their shape, their number and their position. Sometimes teeth come through the front or back surface of the gum instead of through its upper border. These irregularities need the attention of a skilful dentist.

A Gumboil is really the superficial part of an abscess that is connected with the root or socket of a tooth. Early lancing this abscess, (or opening it with a clean boiled needle) will save much pain. The mouth should be well washed with warm Condyl lotion every few hours. The question of removing the tooth must be decided by the dentist, who alone can know the requirements of each child's mouth.

Thrush. Thrush is not an uncommon trouble in delicate and ill-nourished children, and is frequently seen in the last stages of wasting disease.

It appears as small white specks or patches on the mucous membrane of the mouth and throat. These patches can be easily peeled away, and if forcibly detached leave a red tender surface. Sometimes "thrush" occurs in other parts of the body, and may be seen at the opening of the bowel. Nurses sometimes say that in these cases the thrush has gone through the child." This is not true, but the condition shows that the little patient is ill nourished and of feeble vitality.

Treatment. Thrush can usually be prevented by feeding the child with food suitable to his age and condition, and by scrupulous cleanliness of his feeding bottle and mouth.

The mouth should be painted with a special lotion,* or with carbolic glycerine 1 part, water 1 part.

If the child is at the breast great care must be taken to cleanse his mouth and the mother's nipple before and after each feed.

If he is artificially fed care must be taken not to spread the infection through spoons, teats, bottles, and cups.

Peritonitis is not common in infants and very young children, though it may occur in them and is often seen in older children and young people. It may come on without

* Glycothymoline, 1 part ; water, 2 parts : or formolyptol, 1 part ; water, 1 part.

apparent cause, or after a blow or a fall on the abdomen. It sometimes supervenes on other diseases, such as typhoid fever, scarlet fever and pleurisy. It is not uncommon in tuberculous children and seems to be easily developed in them by accidents which do not usually suffice to cause it in healthy individuals. Peritonitis is also associated with appendicitis and other diseases of the abdominal organs.

The peritoneum is the thin transparent membrane which covers all the organs in the abdomen so that it is easy to understand how parts of it, or the whole of it, may become inflamed in consequence of their diseases, and sometimes from poisons circulating in the blood.

Symptoms. The symptoms are not always well marked and this is one of the reasons why even apparently slight complaints of pain, vomiting, and other abdominal symptoms should have immediate attention.

Vomiting. Vomiting is usually an early and a persistent symptom. It continues after the stomach has been emptied and gives no relief. The vomited matters are first the contents of the stomach—food and mucus—then bile and later a peculiar thin brownish fluid.

Pain and Tenderness. Pain and tenderness of the abdomen are generally well marked. They may be all over, or in one part chiefly about the navel or low down on the right side.

Distension. The abdomen is distended, sometimes very greatly, and may feel as tight as a drum, or in less acute cases it may be doughy.

Constipation Constipation is usually a marked symptom.
Temperature The temperature usually rises a little but not
and Pulse. often to any great height, and in the worst cases it may not be raised at all. The pulse is the most important sign in peritonitis—it becomes very rapid and very feeble.

Aspect of the patient. In bad cases the patient lies on the back with the knees drawn up, the face is pale, or blue, and the features sharpened. The respiration is quick and shallow, the abdomen not moving with it.

In cases of localised peritonitis the suffering may be

severe but the sickness is not persistent, the pulse is not so bad, the temperature probably rises, a localised swelling is sometimes found and perhaps an abscess forms.

Treatment. It is at once obvious that a doctor must undertake the treatment of these very serious cases. Until the doctor comes the patient must be made as comfortable as possible in bed and no food nor medicine must be given.

Cases of general peritonitis are generally fatal but sometimes the patient recovers. The question of operation must be left entirely to the doctor for he alone can tell whether the case is one which is likely to be benefited by it.

Obstruction of the bowels. Obstruction of the bowels is commoner in babies than in older children. Its symptoms greatly resemble those of peritonitis which indeed usually accompanies obstruction or supervenes in the course of the disease. In many of these cases the child's life may be saved by prompt operation. The case should therefore not be neglected for the chances of recovery diminish with every hour of delay.

Chronic Peritonitis. This is common in tuberculous children—the exciting cause may sometimes be a blow or other injury.

There is generally pain in the abdomen with some tenderness and gradual distension. If dropsy comes on, and fluid collects in the abdomen, there may be considerable distention but sometimes the fluid is absent or small in amount and the child suffers from pain, fever, and emaciation. Sometimes irregular lumps can be felt in the abdomen or merely a general swelling and doughy resistance. These cases are by no means hopeless although they are very serious, much can be done by suitable dieting and good nursing in general.

Treatment. In the early stages of the disease the child must be entirely in bed, the food should be peptonised milk, or Benger's Food varied by chicken broth, beef tea, or meat essences.

Pain can be relieved by hot fomentations, by belladonna and glycerine applied on lint and covered with hot cotton wool—sometimes mercury ointment spread on lint is useful.

The bowels must be kept open, and if possible cod liver oil should be given.

In these cases also the question of operation may come and must be decided by the doctor.

Umbilical hernia is the protusion of a portion of intestine under the skin at the navel. It may exist from birth or may come on a few months later. It is caused by a failure of the navel to close properly and may generally be prevented by proper care during the first few days of life.

Inguinal hernia or rupture in the groin is most common in boys. It arises from the failure of the canal to close after the testis has descended from the abdomen into "the purse" (scrotum). It may be present from the time of birth or appear at any time. It may be brought on by violent crying, straining due to constipation or dysentery, or from straining to pass urine in cases of phimosis or stone.

Sometimes the loop of bowel lies in the canal and is seen as an oval swelling in the groin which generally appears on exertion, and disappears when the child is lying quiet. After a time the bowel generally descends into the scrotum which it may greatly distend. Still it usually slips back into the body when the patient lies down and ceases to strain. Very rarely the bowel does not slip back and cannot be gently pushed back. If the patient be an infant he may be held up by his feet and carefully shaken. If however the bowel does not readily return no time must be lost in sending for the doctor as the condition is a very dangerous one.

Treatment. In all cases the supposed cause of the hernia must be treated. If there is phimosis circumcision must be performed without delay, worms, constipation, diarrhoea and dysentery must be cured, and stone in the bladder must be removed.

In infants the best local treatment is a really well fitting truss. It must be accurately moulded to the child's body being the joint product of a careful surgeon and a skilful instrument maker. It must be waterproof—the steel spring being covered with indiarubber or xylonite because the child must wear it night and day, even in his bath. Great care must be taken to avoid chafing the delicate skin. The

truss must be removed twice a day at a moment when the child is happy and placid. The mother or nurse should put a finger over the canal and then the skin must be washed, gently rubbed with brandy and salt, and then powdered. The truss must be immediately replaced, care being taken that the bowel is in the abdomen. Two trusses should be in use so that if one is broken or otherwise unserviceable there is no delay in putting on another. It is to be remembered that if the bowel slips down even for a second it opens up the canal and undoes whatever good may have been gained. If the bowel can be kept up for some months there is hope of radical cure because the opening tends to close and the bowel grows with the growth of the infant. If however the testis has not descended from the body into the scrotum (purse) the cure is not likely to be radical and permanent.

If this treatment fails the opening must be closed by operation for not only is a boy with a rupture ineligible for the army and navy but he is always in danger of some serious accident. The operation is neither painful nor dangerous and is usually very successful.

CHAPTER IV

RICKETS

RICKETS is a disease of malnutrition and does not occur in a healthy and well fed child. It is chiefly seen among the neglected and ill fed children of the poor but it also afflicts the children of the rich when their mothers and nurses do not know how to feed them, nor the value of fresh air and sunlight ; and lastly rickets may supervene on a long and exhausting illness which has reduced the child's strength and for the time arrested the proper assimilation of his food.

The chief cause then of rickets is deficient, or unsuitable, food. Infants fed from the breast and those whose milk is carefully adjusted to their age and digestive capacity are free from it.

Symptoms. The forewarning of rickets is continued indigestion, with its usual results of loss of flesh, loss of strength, and loss of complexion. After a time it is noticed that the child no longer enjoys movement, that he prefers to lie quietly in his cradle, and that tossing, dandling and play, elicit cries and expression of pain instead of laughter and shrieks of joy. If a little older the child will sit quietly until exhausted with his legs stretched out before him the weight of his body being partly borne by his hands which are planted on the bed or floor on each side of him. He only wants to be let alone and fears the playful roughness of other children. In many instances walking is indefinitely delayed or the child who has learned to walk ceases to do so. Sometimes this is thought to be caused by weakness of the ankles or knees but it is soon found that

cold sponging and exercises do not cure the supposed weakness. It is noticed that the child is not only pale, thin, listless and unnaturally quiet, but that he perspires profusely especially about the head and neck and when asleep. He kicks off the bed clothes and will by choice lie unclothed even though the weather be cold.

After a time it will be observed that the bones are becoming deformed. The head is large in proportion to the body and peculiarly square. The arms and legs are distorted and bent near the joints, the ends of the bones are thickened and the chest is much deformed. It is deeper from front to back than normal and the ribs are "beaded." The child's chest is altogether too small and his abdomen appears unduly large.

The course of teething is greatly interfered with and no teeth may appear until the time when they should all have been cut. When ricketss attack a child who has already cut some of his teeth the process of dentition is often arrested or delayed and the teeth which have been cut may become blackened and decayed.

A rickety child is more liable than a healthy child to suffer from the ordinary diseases of childhood but those which affect him most seriously are bronchitis, broncho pneumonia, whooping cough, false croup (laryngismus stridulus) diarrhoea and convulsions.

Although rickets is commonest in little children it may occur in later childhood and even in young adults.

The effect of rickets in altering the shape of the bones is of great importance especially when it affects the pelvis in girls. Thus are produced very serious deformities which give rise to difficulties in childbirth.

Treatment. A child should never be allowed to become rickety it is due to bad feeding, usually to too little milk and too much starchy food such as cornflour, arrowroot, and infants' foods in the dietary of infants and too much bread potatoe, rice, and sago in the case of older children, (see chapter on the feeding of children.)

A rickety child must be well and suitably fed. He must be clad in fine soft woollen garments so contrived that he cannot kick them off at night and expose his hot or perspiring skin to the chill air ; he should wear a flannel binder both

night and day, and his tendency to cold feet must be corrected by rubbing them with a stimulating liniment such as camphor or turpentine liniment and the wearing of fleecy socks in bed. His bowels must be carefully attended to and a few drops of rhubarb wine in peppermint or cinnamon water before meals will be found helpful. Tonics are useless until the digestion is set right but when the tongue is clean and the bowels regular tonics and cod liver oil may be given.

CHAPTER V

LATERAL CURVATURE OF THE SPINE

LATERAL curvature of the spine is common in young people, especially in girls. It most usually appears shortly before or about the age of puberty and if untreated grows steadily worse until the growth of the individual is completed.

Instances may be found both in boys and girls where the spine has become curved in consequence of deformity of the chest ; for instance after cases of empyœma (abscess within the pleural cavity) where after the evacuation of the pus the chest wall has fallen in. It also occurs when a limb has been removed during childhood or has failed to grow as much as its fellow. Softening of the bones and alterations in their shape from rickets, or from caries, may cause curvature of the spine directly or indirectly. Many of these causes are beyond the power of the most watchful parent to prevent, and the resulting deformity is frequently irremediable.

There remains, however, a large class of cases in which curvature is due to preventible causes and in which cure can often be obtained.

In this class of cases the patients are generally girls and the causes are various improper positions of the limbs and body coupled with undue weakness and softness of the muscles and ligaments of the back.

Symptoms. Symptoms of lateral curvature vary from so slight a deviation from the normal that only a practised eye can detect it up to severe and disabling deformity. There are also considerable pains, aching, and sense of weakness.

Growing children should be carefully inspected once a month. The child to be examined should be stripped and

should stand with its back to a good light. The hair should be coiled up so as not to obscure the view, the head should be straight and the arms should hang by the sides. Attention must then be paid to the spine. It ought to be straight, not bending towards the right or the left, a slight degree of deviation may be detected by touching each spine with an aniline pencil and then running a line from dot to dot. Next it should be noticed whether the shoulders are on the same level, especially with regard to the points of the shoulder-blades. Thirdly look at the hips to see whether their curves are similar, and also look at the waist-line and at the space between the body and the arm (it should be hanging straight down). This space ought to be equal on both sides. In many cases the spine will be found bent more or less to the right, or to the left, in the region of the loins and also bent in the opposite direction between the shoulders. The points of the shoulder blades are not on the same level, one hip is higher than the other, and the shape of the space between the arm and the body is different on the right side from the space on the left.

If the girl is turned round the two sides of the chest in front are not quite similar. The ribs are more rounded on one side than the other consequently that breast is the more prominent of the two and the curve below it is higher.

In recent and mild cases most of these points of difference vanish if the patient stoops forward from the waist the head and arms hanging down. Such children will probably become quite straight again if properly treated, but those in whom the differences persist have probably more or less permanent change of shape.

On enquiry it will generally be found that the child has been permitted to sit and to stand in slovenly and ungainly attitudes. Thus she frequently stands on one leg, she habitually crosses one leg over the other when sitting, and she leans on one elbow when reading and writing. In addition to these bad habits we often learn that the girl has recently grown too fast for her strength or that she has developed rapidly; the flat, childish chest having rather suddenly become womanly.

Great demands are made on the organism by the rapid development which occurs at puberty, and unfortunately

just at that time equally great demands are made by educational necessities. Unless the mother or guardian is exceptionally watchful and careful the strain is too much for the girl and her health breaks down, or at any rate she falls into the slovenly habits which for the moment relieve her sense of fatigue and strain.

Why do girls suffer so much more than boys whose development is as rapid and whose education makes as severe demands?

Boys do not develop quite so early as do girls and their muscles at 16 or 17 are less childish than the girls are at 14 or 15. Then too the boys activities are better balanced and they spend several hours a day in the open air playing games which tend to develop and straighten their muscles. Things are improving now but formerly girls were not allowed to use their muscles fully—any really good exercise was denounced as unladylike.

The treatment of lateral curvature which is the combined result of poor muscular development and ungainly attitudes is simple and effectual although tiresome.

The muscles, the nerves, and the blood must be got into as perfect a condition as possible. Iron, arsenic, Cod liver oil, abundance of good food and fresh air are essential. Gymnastics, especially remedial exercises, will remove, or mitigate, the deformity but they must be taught intelligently and patiently for months at a time.

Prevention is better than cure and if possible children should not be allowed to form slovenly habits. Their chairs and desks should be adapted to their height, and should be so constructed that the children's backs and thighs are comfortably supported while their feet reach the ground.

Parents have the remedy in their own hands. If they take care to inform themselves as to the best hygienic condition for their children and insist on having these conditions at school as well as at home, they will have their reward. The present unsatisfactory state of schools and of education is due to the ignorance and apathy of parents and guardians.

CHAPTER VI

HEART DISEASE.

RHEUMATISM.

ANÆMIA.

By anæmia is generally meant a deficiency of colouring matter in the blood—a deficiency in the red corpuscles of the blood either in number or in quality.

Anæmia may result from deprivation of pure air and sunshine, from insufficient or unsuitable food, and from the results of other diseases whether acute or chronic such as the specific fevers, all kinds of tuberculosis, and malaria.

The patient is pale—the tongue, gums and lining of the eye-lids being markedly less pink than is usual. The breath is short and may become difficult on slight exertion such as running up stairs or playing games. The children are not usually thin and may be rather fatter than usual but they are weak and generally very listless. They suffer much from headaches and are often dyspeptic.

Anæmia should always attract attention and should have careful and prolonged treatment. Anæmic children must live under the best obtainable conditions as to air, food, and exercise. They should also take iron or iron and arsenic combined if necessary with cascara. This treatment should be continued for three months and after an interval of a fortnight for at least three months more. Often the treatment must be continued for a year.

The teeth and throat should be carefully examined for there is no doubt that the discharge from decaying teeth, from gum-boils, and from adenoids tends to produce anæmia or the state of health that leads to anæmia.

It sometimes happens that boys and girls of fourteen to sixteen years of age become markedly anæmic. This is often due to the great changes that are occurring in their

constitutions. Such children should be carefully watched and wisely treated.

Rheumatism. Rheumatism does not often occur in very little children and when it does is frequently so slight that it is called "growing pains" and receives scanty attention. This is unfortunate for in children's rheumatism the chief trouble is not fever nor pain in the joints but the effects on the heart. Therefore any complaint of pain or any swelling and redness about their joints should lead to very prompt treatment.

In older children the onset is more definite—it may begin with chilliness and vomiting, the temperature rises, the joints are swollen and painful and the patient is manifestly ill. The shoulders, hips, knees and elbows are most often affected but the pain and swelling disappear and appear in a very erratic manner. The attacks last a short time only but are very liable to recur.

Rheumatism is often associated with St. Vitus' Dance (page 88) also with tonsillitis (page 128), purpura and with certain red rashes which however are not infectious. The child is often left anæmic and delicate even in the cases in which the heart is not affected.

Treatment. Any child complaining of pain in the joints should be put to bed at once. He must be clothed in flannel and lie between blankets.

The diet should be exclusively milk.

The affected joints may be wrapped up in lint soaked in equal parts of glycerine and extract of Belladonna—over this cotton wool should be applied. If the child is restless a light splint to prevent unintentional movement of the affected joint will be a comfort.

The bowels must be kept open with Rubinat water or Apenta water. A simple mixture containing citrate of potash may be given, or if there is much pain and fever Salicylate of Soda in tabloids or in mixture.

The patient must be kept in bed and on milk diet for several weeks after all pain and fever have disappeared; otherwise not only may a relapse occur but the heart may suffer from too quickly resumed activity. The danger of rheumatism in childhood is not so much during the acute attack as from its after effects.

Heart Disease. Heart disease is not uncommon in little children. It is sometimes present at birth but more often follows other diseases such as Rheumatism, Scarlet Fever, Diphtheria and St. Vitus' Dance.

Symptoms. In some cases the symptoms are very slight and are long over-looked. In cases of congenital heart disease the child's surface may be more or less blue and easily chilled. The so-called "Blue Baby." The blueness is more marked when the child cries or strains. As it grows older it is noticed that it cannot run about and play like healthy children, that it loses its breath after slight exertion and that it is very liable to attacks of bronchitis.

Heart disease often commences quite insidiously as a consequence of Rheumatic Fever. In children the pains in the joints and the fever are not well marked and it is only later when the child's chest is examined because he has bronchitis or because his breath is short that the condition of the heart is detected.

Complaints of "growing pains" should meet with careful attention for they are sometimes the only signal of a rheumatic attack.

Treatment. Any inability or unwillingness for movement and for natural play should call for a doctor's opinion. There is always something wrong with the child in such a case.

If a child has heart disease he should not be allowed to play boisterously nor to over-fatigue himself. He should be clothed in light woollen garments and be carefully protected from damp and chills. The doctor should be consulted as to how much exercise is advisable and also as to the best method of education. It is obvious that a child who is unable to keep pace with his fellows is not fit for an ordinary school.

If a child with heart disease is over tired, or has any slight ailment, he should be put to bed at once in a room which is both warm and also well ventilated.

His diet should always be very plain and digestible and during an attack of dyspepsia, bronchitis, or rheumatism should be chiefly milk.

The bowels must be kept freely open, by diet if possible.

CHAPTER VII

TUBERCULOSIS

GENERAL CONSUMPTION
CARIES OF THE SPINE

DISEASE OF HIP JOINT AND KNEE
SWOLLEN GLANDS

By tuberculosis we mean a diseased condition of the body caused by the growth in it of the special bacillus of tubercle.

This bacillus may grow in any part of the body and in children is very frequent in the lymphatic glands, the bones, the joints, the lungs, the brain and the abdomen.

It is very necessary that parents and guardians of children should understand that tuberculosis is a preventable and an unnecessary disease. Men of science, doctors and nurses should never weary of telling people how to prevent the terrible waste of life which is caused by tuberculosis.

If we all had an abundance of fresh pure air and of simple well-cooked food tuberculosis would soon be as extinct as the Dodo. Children are not born with tuberculosis and seldom become tuberculous until six or more months after birth—that is to say not until bad air, dust, and improper food have made their tissues a fit soil for this noxious vegetable.

At present the life and the money of the nation are sacrificed to its ignorance and folly. A small portion of the money spent on Hospitals and on other cures of the tuberculous would suffice to give the people well ventilated dwellings and to teach them the value of pure air.

A great experiment in this matter is in constant progress in India. The Mohammedans and the Hindus live under

the same climatic conditions and under the same general sanitary conditions. The Mohammedan women are strictly secluded and breathe a badly vitiated atmosphere. The Hindu women are not secluded and live virtually in the open air. The Mohammedan women are very liable to various forms of tuberculosis from which the Hindu women are practically free.

The bacilli of tubercle are inhaled with foul air, they are eaten with tuberculous meat and milk, and are licked off toys and comforters by babies of tender age.

Sometimes the bacilli are carried by the lymphatics of the mouth and throat to the glands of the neck which swell and often suppurate (see page 71) they obtain entrance to the Bronchial glands and the lungs and so cause consumption. They pass from the stomach to the bowels causing "consumption of the bowels," tuberculous peritonitis, and other abdominal tuberculous diseases.

Children are liable to a general outburst of tubercle affecting many parts of the body at once. This however seldom happens in a child who is in robust health. There is generally some localised tubercle and then a more or less rapid generalisation.

One form of general tuberculosis greatly resembles typhoid fever and another may be mistaken for pneumonia. In the one the dyspeptic symptoms and diarrhœa are most prominent and in the other the chest symptoms. In both there are fever, wasting, loss of appetite and very severe illness. The course of the disease is very short, generally a few weeks only—and unfortunately there is little to be done for it.

The child must be made as comfortable as possible. The food should be nourishing and given in small portions. Milk, eggs, pounded meat, meat essences, and strong soup. Sometimes a little very good wine is useful also extract of Malt with Cod liver oil, if it can be retained and digested.

The fever may be reduced by cold baths, cold packs, and by quinine. Many drugs are used and recommended and the doctor's orders must be carried out. Sometimes recovery occurs when least it is to be expected.

Consumption is a popular name applied to illness caused by the invasion of the lungs by tubercle—no doubt

the name was suggested by the fact that the patient seems to be consumed.

Many cases where little children and infants become rapidly emaciated and extremely weak are not due to lung disease at all but to starvation caused by diseases of the stomach and bowels or to the food supplied being unsuited to requirements.

It is difficult even for a doctor to be sure of the diagnosis of tubercle in the lungs in little children and still more difficult for parents who live out of reach of medical help. The only comfort is that the treatment of any wasting child must be based on a strict observance of the rules of hygiene.

A consumptive child suffers from fever, the temperature usually rising to 101 or 102° or more in the early evening; during the night he sweats, and in the morning the temperature is down and the patient is more or less exhausted. This state of things does not come on suddenly but after a period of gradually failing health, or after such diseases as typhoid, measles, and influenza, or in connection with bone, joint and gland trouble.

When the disease is established there is usually diarrhoea which may become very profuse. Cough is usually present and sometimes occurs in paroxysms which lead to vomiting but there is little expectoration, and spitting of blood is an exceptional occurrence.

The progress of consumption if untreated is from bad to worse. The temperature becomes more uneven, the diarrhoea worse, the emaciation and failure of strength more marked and more rapid until at the end of a few months the end arrives.

Treatment. There is no doubt that the open air treatment properly and carefully carried out is the treatment for all forms of tuberculosis except, perhaps, the most rapid.

This treatment is difficult to carry out at home and if possible the patient should be sent at once to one of the many "open air cures" where the treatment is carried out by experienced physicians and where even the architecture of the building has been directed to the cure of the disease.

Sunshine is so necessary a part of the treatment that one

naturally expects to send patients to more favoured countries than great Britain. The Black Forest, Switzerland and the Riviera suggest themselves as health resorts for those afflicted with tuberculosis.

It is however also necessary to secure suitable food and this is more difficult to obtain on the continent than in England. In the case of children who thrive best on eggs and bread and milk a suitable diet is more easily obtained than it is for adults.

Life in an ordinary hotel or pension does not meet the requirements of the case. More harm than good is done in the small bedrooms in which the only choice is between stuffiness and a thorough draught, and in the still more deadly public rooms where the windows are almost permanently shut.

A consumptive patient, or any one threatened with tuberculosis, must live night and day in the open air and must have an abundant supply of milk, eggs, cream, butter and pounded or minced meat. The meat must be of the best quality very tender and not over cooked.

In the latter stages the usual invalid diet must be supplied.

Drugs. Drugs are comparatively useless. Cod liver oil and malt are foods rather than drugs.

The various symptoms must be treated as they occur.

The fever may be lessened by small doses of quinine and by tepid or cold spnging. The sweats may be mitigated by sponging the chest, neck and arms with toilet (or ordinary) vinegar and water. Diarrhœa must be combated by Bismuth or other astringents (formula). The chest may be painted below the collar bones with tincture of iodine, or a stimulating liniment may be rubbed into the back between the shoulders.

Caries of Spine. The bacilli of tubercle may attack the bones of the spine causing what is known as "Caries of the spine." There may be tuberculous disease of some other part at the same time, or it may come on after some exhausting illness. It frequently attacks bones that have been injured by a fall but it never attacks strong children who enjoy plenty of fresh air and good wholesome food.

Symptoms. Among the earliest are those of gradually failing health, anaemia, loss of flesh, loss of strength, loss of appetite and then come stiffness and tenderness of the spine. The child holds himself carefully in one position never turns round sharply, never jumps, dislikes romping games and creeps about like an old man. All these symptoms resemble those of rickets but in rickets the tenderness is chiefly in the bones of the limbs.

After a time the bones affected become softened and the spine at the softened part bends under the weight of the head and shoulders and so a definite projection may generally be felt and seen. This is quite different from the generally rounded "Cat-back" of rickets and from the S like deviation of the spine in cases of lateral curvature.

If neglected the disease and softening of the bone may lead to the formation of abscesses which may appear in the neck, the back, in the side, above or below the groins and in other places.

Pain may be complained of, but children are generally vague in their descriptions of pain—any pain demands careful investigation especially any pain that persists day after day. To call such pains "growing pains" or "rheumatism" is to allow the opportunity for successful treatment to pass by.

Any bone may be attacked by tubercle but especially those of the spine, wrist, ankle, hand and foot.

The principles of treatment in tuberculous disease of the bones is like that of tubercle in any part of the body.

Abundance of sunlight, fresh air, pure water, good milk and good food generally.

The local treatment is absolute *rest*. When there is a suspicion even of caries of the back the patient must be kept absolutely still. It is not enough that he should be in bed, his spine must be prevented from bending by the application of a well-fitting poroplastic, or Plaster of Paris Jacket. If the disease is in the spine high up (in the neck) the head must be supported and movement at the neck, prevented by a surgical apparatus. All the same the child must live in the open air and have as much sunshine (without undue exposure) as can be obtained.

Hip Joint Disease is really tuberculosis of the head of the

thighbone or of the delicate membrane that lines the joint. It often follows a fall, a blow or a sprain of the joint, or occurs after one of the acute infectious fevers, or when the child is already suffering from tubercle in some other part of the body.

Symptoms. The early symptoms of hip joint disease are misleading. The child may complain of pain in his knee, in the calf of the leg, or in the inner side of his thigh. Often there is no complaint of pain but the child is seen to limp, the joint is somewhat stiff, the muscles round it are less full and firm than on the other side and the child sleeps badly from the painful spasmodic movements of the muscles about the joint. If the child is made to lie down on a table or on the hearthrug it will be seen that when the leg is flat on the ground the small of the back is raised from it.

It is not wise to wait for all these symptoms nor for later ones such as fixation of the limb or abscess, it is necessary to consult the doctor at once and as in the case of all disease of bones and joints to procure absolute rest and the proper general treatment (see page 68).

Tuberculous disease may affect the knee, the shoulder, the wrist, the ankle, and indeed any joint. The early symptoms will always be stiffness, tenderness, pains, and wasting of muscles—These symptoms should always lead to immediate consultation of the doctor with absolute rest in the fresh air, a liberal diet, the administration of cod liver oil together with careful regulation of the bowels.

Swollen Glands. Probably enough has been said about tuberculosis in general but it is necessary to point out that although swollen glands in the neck and elsewhere are not always due to the invasion of tubercle they frequently are indications of this disease.

It is well in any case of swollen glands to search for the cause. Thus eczema or other sores on the head, eczema or inflammation of the ear, decayed teeth, sore mouth, and sore throat may lead to swollen glands in the neck, while injuries to fingers and toes may lead to swollen glands under the arm and in the groins.

It is evident that in many cases the trouble is very simple and will rapidly subside when the cause is removed,

when the eczema is cured, the decayed tooth removed, or the injury healed.

Swollen glands which are not so easily cured must be very carefully watched, for if they inflame they are likely to go on to suppuration. In this case they may lead to ugly puckered scars that are very disfiguring, or to further infection which may be dangerous.

At first the glands should be left alone for a week or two. If then they do not subside the doctor should see them—probably he will order them to be gently rubbed with a mercurial ointment. If this does not lessen the swelling they may have to be removed. If this is done before the gland inflames, and before the skin is reddened there will be only the slightest scar like a thread, but if the gland is allowed to form an abscess and to burst, a puckered and very ugly scar will result.

CHAPTER VIII

DISEASES OF THE ORGANS OF RESPIRATION

ADENOIDS.

BRONCHITIS.

PNEUMONIA.

PLEURISY.

ASTHMA.

Adenoids are exceedingly common in children and are sometimes present at birth. They are small growths of soft, or tough, consistence situated high in the throat chiefly behind the soft palate and in the opening of the nose into the throat.

Adenoids are often associated with large tonsils and if left untreated lead to general ill health.

First, the child cannot breathe freely as it should do through its nose, consequently its mouth is always open which gives it a stupid appearance and predisposes it to diseases of the air passages, also it snores at night and often sleeps restlessly.

Secondly the muco-purulent discharge from the growths is swallowed and leads to stomach troubles.

Thirdly the growths often block the throat end of the tubes which lead from the throat to the ears and this causes deafness.

The appearance of a child who has adenoids badly is very typical and not pleasing. It is usually pale with a bad complexion and a dull heavy expression partly due to deafness. Its nose is pinched, its mouth open, the voice and articulation are affected. All this is quite unnecessary, for a skilful surgeon can clear the throat in a few minutes, and if this is done while the child is quite young it will

soon recover its health and good looks. The operation is less successful in grown up people nor do they readily lose the habits of mouth breathing, snoring, and faulty articulation.

Adenoids are often associated with chronically enlarged tonsils which should be removed at the same time.

After the operation great care is required to teach the child to shut its mouth and breathe through the nose. The constant admonitions necessary are irksome to both attendants and children, but unless the habit of mouth breathing is cured the benefit of the operation will be lost.

Bronchitis is a common disease in children, especially the children of the poor and those who are living under insanitary conditions. Cold and damp are common causes, but so too are defective drains, dirty houses, dusty rooms, and insufficient clothes.

Children suffering from other diseases such as tuberculosis, rickets, whooping cough and measles are specially liable to bronchitis.

In little children the early stage of Bronchitis is usually accompanied by a cold in the head. There is running at the nose and eyes, stuffiness in the nose and consequently the child cannot suck properly. It cannot breathe through its nose and therefore drops the nipple to take breath. The temperature is moderately raised usually to about 102° F. the respirations are more or less hurried and the pulse quick. There is a hard, and often a spasmodic, cough, but at first there is no sign of mucus in the chest. Indeed very little children seldom bring up any phlegm unless they vomit. If the child is otherwise healthy and if intelligent care be taken of it bronchitis is not a necessarily dangerous disease, but when neglected or when it occurs in a child who is already weakened by disease it is very fatal.

Treatment. The child should be kept in bed with the temperature of the room as near 70° F as possible, and this temperature should be maintained night and day. The nursery should be well ventilated as well as sufficiently warmed, and the child's bed should be protected from draughts by a screen. The clothing should be of woollen material light, as well as warm. The diet

should be, if possible, the breast for an infant and milk, or milk and broth, for older children. Care should be taken that the food is not only suitable in kind but that too much is not taken at once. A distended stomach adds greatly to the difficulty of breathing and general discomfort.

Treatment should be commenced by a hot bath, or a mustard bath, and a small but efficient dose of aperient medicine.

Where the child is very feeble and where there is any blueness of the lips, nose, and ears, two or three drops of Brandy may be given with each meal for twenty four hours. This is not to be given without the doctor's orders when a doctor is in attendance.

If there is much accumulation of mucus an occasional emetic dose of Ipecacuanha wine is useful in clearing the bronchial tubes. The dose varies with the child's age from five or six drops for an infant up to a teaspoonful for a child of seven or eight years. It should be mixed with tepid water.

The chest should be rubbed front and back with camphorated oil, or half camphorated oil and half Eau de Cologne. After it has been rubbed gently until the skin is red a sheet of well warmed cotton wool should be applied. Better still is a sort of sleeveless jacket made of gamgee tissue fastened over the shoulders and down one side with tapes. Gamgee tissue consists of wool between two layers of thin gauze. Sometimes poultices are ordered but they are heavy and apt to become displaced and broken up by a restless or fidgety child.

Where the atmosphere is dry and irritating, or when the cough is hard and frequent, much relief may be obtained by using a Bronchitis kettle.

The kettle may contain simple boiling water, but it is often useful to add Tincture of Benzoin a teaspoonful to the pint of water, or fifteen drops of oil of Eucalyptus mixed with one teaspoonful of spirit of wine to the pint of water. If a Bronchitis kettle cannot be had a good substitute is made by adding a long tin spout to any ordinary kettle or indeed any tube such as a hollow cane or bamboo.

Sometimes a dose of Sweet Spirits of nitre 15 to 30 drops with a few drops (3 to 20) of Tincture of Paregoric will allay

the feverishness and quiet the cough, but drugs should be left to the doctor whenever possible.

Among good domestic remedies may be mentioned hot black currant tea, hot lemonade, boiling milk and soda water all of which being sipped from time to time allay cough and lessen the soreness of the chest.

Pneumonia or Inflammation of the lungs is a very serious disease in little children and the younger the patient the greater is the danger. It is both frequent and fatal in infants especially when teething. It often complicates whooping cough and measles and then usually develops rapidly—in other cases it begins very insiduously, usually in a child who is already suffering from Bronchitis. The commonest form of the disease in children is Broncho pneumonia.

The temperature is raised but is very variable and is seldom steadily high as in the case of adults. It remains high for an indefinite time and only slowly, and with many variations, returns to normal in cases that recover. A sudden fall of temperature in a child suffering from pneumonia seldom indicates improvement. The respiration is greatly quickened and is generally distressingly difficult. The face is livid, the nostrils move with each inspiration, and frequently the child cannot lie down—his whole effort is to obtain enough air to carry on the processes of life. He takes little notice of anyone and is quite unable to suck.

The pulse is quick and soon becomes feeble but the child suffers more from the difficulty of breathing than he does from heart-failure.

Frequently there are attacks of vomiting and also of exhausting diarrhoea.

Although Pneumonia urgently needs the best medical advice procurable, much may be done by mother and nurse to assist nature's efforts to save the child.

The temperature of the sick-room should be maintained at about 70° F and great care should be taken that the air is fresh and pure as well as warm and equable—only those persons directly concerned in nursing should be in the room;—for not only does each additional person make the air less pure, but people running about a room cause currents of air or draughts, also unless the patient is unconscious each fresh person causes excitement and all excitement is injurious.

If the breathing is difficult the little patient must be propped up with pillows so that he may not waste his strength by sitting up. He must be washed and fed with the least possible disturbance and the food should be very nourishing but small in bulk and easily digested. A stomach distended by food or by wind adds to the child's discomfort and danger. Such foods as home made meat-juice, Brand's, Wyeth's, and Valentines, meat essences, Carnrick's soluble peptonoids, and milk are among the best—for older children. * Infants should have the breast or the milk to which they are accustomed. Poultices should not be applied without the doctors orders, but the Gamgee tissue jacket (see page 75) or hot cotton wool may be worn.

Sometimes stimulants are needed and will be ordered by the doctor. Probably a few drops of good old Brandy in milk or with food is the best. Sometimes small doses of Champagne are useful.

The convalescence is usually slow and unusual care is necessary as too often the Pneumonia of children results in permanently delicate lungs.

Pleurisy is fairly common in children but is more easily recognized among young people than in babies.

It may follow exposure to cold and wet and undue exertion followed by rapid chilling. More frequently it occurs during some other illness such as tuberculosis, and septic pneumonia and rheumatism.

Symptoms. Older children complain at once of the well known pain in the side of the chest and if the disease be extensive and acute there is difficulty of breathing partly from the pain and partly from the rapid collection of fluid in the chest. There is more or less fever with rise of temperature and pulse; the breathing is quick and shallow with a frequent short cough.

Pleurisy in very little children is apt to pass unrecognized at first because they seldom tell us where the pain really is but attention should be aroused by the vomiting which is frequent, and possibly by convulsions.

* Jelly made with milk and nicely flavoured is very acceptable, easy to take, and of considerable value as a food. The white of an egg well beaten, mixed with water and flavoured with meat juice not only quenches thirst but is also food.

The danger and distress depend partly on the quantity, and partly on the nature, of the effused fluid. If it be very abundant it squeezes the lung and prevents it from doing its work. Consequently more work is thrown on the other lung which is likely to become congested in consequence.

The fluid may be clear serum (the fluid part of the blood) or it may be pus especially when pleurisy comes on in the course of some other disease. The condition is then really an abscess in the chest and is called "empyema" This is more dangerous than ordinary pleurisy and is not likely to get well unless a cut is made and the pus allowed to drain away. Fortunately the operation is not dangerous in itself and the relief given by it is very great. Even when the doctor thinks the fluid is not pus it may be necessary for him to drain it away so as to allow the lung to resume its duties and to lessen the difficulty of breathing.

Some cases of pleurisy yield to milder treatment. In them the temperature falls after a few days and little fluid is effused or what was effused is re-absorbed. In these cases great relief is given by strapping the affected side. Strips of india rubber strapping being tightly applied from the back bone round the side to the middle of the body in front. It must not be applied all round the body because it would then interfere with the work of the sound lung. For the same reason the patient lies on the affected side and babies will only suck from the mother's opposite breast thus a child with fluid in its right chest will only lie on its right side and therefore takes the mother's left breast.

Sometimes relief is given by a hot fomentation followed by the application of a well heated Gamgee Jacket (see p. 75).

If there be much fluid the patient is compelled to sit up and the pillows must be so arranged as to support him without his making any exertion (see p. 77.)

The food should be nourishing, unstimulating and small in bulk chiefly milk and meat essences—also milk jelly. (see p. 77)

The doctor may order small doses of Paregoric or some other opiate to allay pain, and if the child is very restless and nervous a little Bromide of Ammonium. Sometimes Iodide of Potassium is given to reduce the fluid but it is not very effectual and decidedly lowering.

Stimulants may be needed where there is great depression with a cool surface and livid face. A few drops to a teaspoonful of good old brandy may be given every few hours as is necessary but no parent would think of treating a disease like pleurisy if there were any possibility of getting a doctor.

Asthma. The term asthma must not be applied to all forms of difficult breathing. Such difficulty may exist in pleurisy, in heart failure, and in many other diseases.

Asthma is difficult breathing caused by spasm of the bronchial muscles and is frequently associated with bronchitis or bronchial catarrh. Attacks may also be caused by indigestion. The appearance of the patient during a fit of asthma is alarming. He cannot lie down, every muscle in the body seems to be used in the endeavour to breathe. The face is livid, the lips blue, and the respiration noisy. Fortunately asthma is not in itself dangerous although the distress is great.

Treatment. For the immediate relief of an attack certain papers or powders may be burned near the patient.

If a doctor can be procured an injection of Morphia and Atropia will give efficient relief.

Between the attacks great care must be exercised as to food. It should be nourishing but light, and not too abundant. Asthmatics whether children or adults should eat meat once only in the day—the chief meal being in the middle of the day.

Great care should be taken to secure full and free action of the bowels and to avoid extremes of temperature, especially hot and ill-ventilated rooms. As to climate some asthmatics are better by the seaside and some in high and bracing situations.

Drugs. Cod liver oil if it can be digested is very useful, so too is Iodide of Potassium combined with a bitter tonic.

All other diseased conditions should so far as possible be relieved, especially diseases of the nose and throat. The nervous element of asthma must not be forgotten and the child should not be in any way coddled although he needs much care.

Sometimes a change of air acts like a charm in a patient suffering from asthma. No one can say what change will do good, sometimes sea air, sometimes that of the moor or the mountain, but sometimes strange to say that of a town stops the attack.

CHAPTER IX

NERVOUS DISEASE

TUBERCULAR MENINGITIS.
WATER ON THE BRAIN
CONVULSIONS
EPILEPSY

TETANY
CHILD CROWING
CHOREA
HYSTERIA

Some nervous diseases are especially common in childhood such as Convulsions, St. Vitus' dance and so called Water on the Brain. They are of importance because they are common, because they are often fatal, and because they may be confounded with other and less serious ailments, especially with the various forms of dyspepsia.

It must be remembered that little children often recover from conditions that appear desperate and that some symptoms, such as high temperature or convulsions do not mean as much in their illnesses as they do in those of grown up people.

No attempt will be made to give a complete account of nervous disease in children, only a few of the commonest will be briefly described.

Meningitis, or inflammation of the membranes covering the brain, is most frequently tubercular in origin. In babies under one year it is oftener due to other causes, the symptoms are much the same in both cases but the onset apparently is more rapid in the younger children.

Ordinary tubercular Meningitis is commonest in children who have inherited a tendency to tubercle and in those who have lived under bad circumstances, like the poor under fed children in the slums of big towns. It must however be remembered that the children of the well to do

may suffer the same way if they live in over-heated, badly ventilated nurseries and are virtually starved because their digestion is ruined by excessive or unsuitable food.

Tubercular Meningitis is seldom sudden in its onset. It is usually preceded by some failure of health such as

1. Dyspepsia.
2. The results of such illnesses as Enteric fever, Measles, Whooping cough, Influenza.
3. Some preceding tubercular trouble such as bone and joint diseases, suppurating glands in the neck, disease of the ears, lungs or abdomen.

When once established, Tubercular Meningitis is little amenable to treatment and is usually fatal.

Therefore every care must be taken to avoid those conditions which so frequently precede it.

No trouble is too great to secure to children a sufficient supply of such food as they can digest. No trouble is too great to secure for them an abundance of fresh air by night as well as by day, and no trouble or inconvenience is too great to lessen the probability of infection and to promote complete recovery from all the specific fevers. A child in whom Tubercular Meningitis is about to develop is generally noticed to be less well than usual, he may have been suffering from one of the diseases which frequently precede meningitis or he may appear to have unaccountably become flabby, pale and irritable with loss of appetite and sleep. A change of disposition has often been observed, a docile affectionate child becoming wayward, while a usually naughty child may become unexpectedly well behaved.

Stage of Invasion.

In the first definite stage of meningitis, the symptoms may be chiefly gastric or chiefly nervous. If gastric the first to attract attention may be vomiting. At first this may occur after a meal but soon it becomes frequent and distressing and comes on without any reference to food while the tongue sometimes remains clean.

Constipation is usual but the abdomen is not distended as is the case in constipation and gradually it becomes unnaturally soft and flat.

The nervous symptoms, which sometimes appear first, or which may accompany the gastric troubles, are very

striking. The child probably complains of headache, giddiness, and perhaps some peculiarity of vision. He staggers when he walks, and although listless and drowsy in the day he sleeps badly, has distressing dreams, and sometimes wakes with a strange yell as if frightened.

Transition Stage In a little time the child becomes steadily duller and more drowsy. Convulsions, twitchings, and retraction of the head are common. He frequently grinds his teeth and the breathing is very peculiar and uneven. The pulse is usually slow and irregular, the temperature very uneven.

Stage of Coma The third stage comes on gradually. The drowsiness deepens into coma so that it is no longer possible to arouse the little patient but probably it is insensible to suffering.

The average duration of the disease is three weeks but may be much less especially in little infants.

Diagnosis It is quite certain that in the early stages Tubercular Meningitis must often be mistaken for various errors of digestion, for teething and for the onset of many acute fevers. The chief guide is to be found in the history of the case, in the fact that the parents, or other children of the family, are tuberculous, and in the precedent ill health of the patient.

Treatment The exact diagnosis matters comparatively little because the management of a sick child is much the same in all cases, and because there is no special treatment for Meningitis. The rules as to food, fresh air, isolation and quiet, are applicable to all diseases alike. The only treatment of any avail is preventive and consists in careful attention to the laws of hygiene.

In the case of a child with tubercular tendencies, extra care must be taken, he must live in the country or at the seaside; food, rest, and exercise must be carefully regulated and no over exertion of mind or body should be permitted.

If such a child appear to be ailing, and especially if any nervous symptoms occur, he should be put to bed at once, the bowels must be freely relieved with a grain or two of calomel or grey powder, he must be fed entirely on milk which had better be peptonised. A Bromide mixture may be given, and ice may be applied to the head if there be

headache. If the vomiting is persistent and even milk or meat essences cannot be retained the patient must be fed by the bowel.

After the initial purgation, the bowels must be kept really active by small doses of calomel or grey powder, supplemented by Fluid Magnesia or Mineral water.

Water on the Brain, is not uncommon in children. It may occur before birth and give rise to difficulty in parturition. It may follow an attack of Meningitis, or it may be due to a tumour of the brain pressing on the blood-vessels. Sometimes it occurs in apparently healthy infants without any discoverable cause.

Sometimes gradual but undue enlargement of the head is the first sign but it may be preceded by convulsions, drowsiness and other cerebral symptoms.

The head becomes large and globular, the intervals between the bones being very plainly felt. The forehead is rounded and prominent and the eyes project. The skin of the head is thin and shiny, the surface veins are unduly well marked and the hair is thin. Usually the child emaciates, the limbs may be paralysed and are sometimes rigid. Convulsions frequently occur, and the child may become blind and idiotic.

The treatment is chiefly palliative, the bowels should be kept open, preferably by calomel or grey powder aided by saline. Sometimes the doctor may be justified in drawing off some of the fluid and in bandaging or strapping the head.

Convulsions. Infants and children are more liable to convulsions than are adults and they occur in them from what may seem quite inadequate causes.

Eclampsia, or the ordinary Infantile convulsion, may be excited by improper food such as a mass of curdled milk, a piece of half masticated meat, currants or seeds from cakes, pips of raisins, grapes and the seeds of figs.

Other common exciting causes are dentition, constipation, the pricking of a pin, the onset of the various acute illnesses, and the exhaustion which occurs during their course. A high temperature of the blood often causes convulsions, and so does exposure to the sun or the over-heated atmosphere of the tropics.

In a typical fit of convulsions there may be first slight twitchings of the face or fingers, sometimes the eyeballs roll upwards so as to show the whites of the eyes. The face becomes pale and the whole body rigid. The hands are clenched, the limbs stiffened and stretched, there is a brief cessation of breathing. The pallor of the face gradually gives place to a bluish or congested colour. The tonic spasm relaxes, the respiration is resumed and the limbs move in rapid, wild and purposeless fashion. In a little time all the commotion subsides and the child after an interval of drowsiness or stupor seems much as usual.

Fits vary greatly in intensity, from a mere change of colour with slight twitchings to severe and alarming attacks.

The immediate nursery treatment is to completely undress the child and put it into a warm bath, at the same time sponging the head with cold water. When the fit is over, if no evident cause has been revealed by the undressing, the most probable causes must be passed in review. If, as is most frequent, the stomach contains unsuitable and undigested food an emetic should be given at once. At the same time a warm oil enema should be given so as to start the evacuation of the bowels. Probably a small dose of calomel and soda or a grey powder will be needed, but the immediate removal of all irritating contents of the digestive tract should be the first care. Sometimes the cause of the convulsions is not irritating food but an altered state of the blood, for instance in the onset of acute illness. In such cases also the very best treatment is the clearance of stomach and bowels.

After this preliminary treatment, the child should be put to bed and if necessary a few grains of Bromide of Potassium may be given to induce sleep and lessen nervous excitement. In some cases of severe and repeated convulsions which seem to threaten life great relief is given by the inhalation of a little chloroform, but the administration of chloroform is the doctor's duty.

Epilepsy. Epilepsy may commence during infancy but more often in later childhood and adolescence. Sometimes it is impossible to say whether the convulsions of infancy were epileptic or whether they have been succeeded by it.

Causes.

Epilepsy may occur in several members of the same family or in several generations of the same family. It is certainly commonest in families of the so called "neurotic" temperament, some members being insane, others hysterical and yet others epileptic.

Epilepsy may first appear after a blow, a fright, a fall, exposure to the sun and about the period of puberty. It may be excited or aggravated by constipation, dyspepsia, and by a generally unwholesome management.

The disease shows itself in two distinct forms. In the milder or "*petit mal*" there may be nothing more than a momentary loss of consciousness, a mere stumble in the walk, a queer grimace and a dazed sensation. These lesser seizures are often not recognised and are described as "fainting" or "attacks." It is better that the patient should not know the name of the ailment, but the parents or guardians ought to be told. Such attacks of "*petit mal*" may pass gradually, or suddenly, into the graver form. Older children after these attacks are sometimes quite insane for a brief space and may injure themselves or others unless carefully watched.

In ordinary epileptic fits, "*grand mal*," the symptoms are much like those of eclampsia but there is often some peculiar sensation passing up from the arms or legs towards the head, or a special vision may occur time after time. The commencement of the attack is usually marked by a characteristic yell. During the attack there are convulsive movements of the jaws causing the saliva to be churned into foam and sometimes the tongue is severely bitten. The bowels and bladder may act during the period of unconsciousness and the fit is followed by more or less stupor or sleep, often by a very severe headache.

Treatment.

An epileptic child should never be left alone, night and day it needs watching. The fits occur without warning and fatal accidents are frequent. These children fall into the fire, into the water, they may be drowned in a shallow bath in which there is a depth of only a few inches of water. They may be suffocated in bed, especially as the attacks of the more severe form most frequently occur in the very early morning when most people are soundly asleep.

All "nervous" children should be brought up in the country or at the seaside. They should not be sent to an ordinary school but their education is not to be neglected. All the usual laws of hygiene should be most carefully followed.

Care must be taken to prevent injury during an attack. A gag to protect the tongue should be always in the child's pocket so as to be immediately available.

As soon as a fit threatens, or occurs, the patient should be laid on the floor on a soft rug or a mattress so that the head and limbs may not be bruised in the strong and disorderly movements that follow. At night the child should sleep on a mattress on the floor and some responsible person must occupy the same room.

The medical treatment resolves itself into great attention to the digestion and bowels, the careful outlook for any indication of brain disease and the administration of the Bromides.

Epileptics can usually take the Bromides freely but care must be exercised because if taken too long or in too large doses they lead to much dulness of intellect and stupidity. In some cases even moderate doses cause a tiresome rash.

Tetany. Tetany is not to be confused with Tetanus, or as it used to be popularly called Lockjaw.

Tetany is a peculiar kind of spasm chiefly of the extremities and neck most common in infancy.

It is often associated with Rickets and other chronic diseases and seldom attacks healthy children.

The cramp like spasm is evidently painful but in itself it is not dangerous.

Treatment. Regulate the bowels and the diet. Give warm baths and small doses of Bromide of Potassium if necessary.

Head nodding and shaking. These movements of the head, which resemble the gestures of assent and dissent are caused by spasm of the muscles of the neck. They occur in children who are of nervous habit and should be treated in the same way as other symptoms of nerve weakness.

Child Crowing. This is a peculiar spasm of the throat most common in nervous and rickety children. The child

in nursery parlance "holds its breath." The attack usually occurs during a fit of crying or when the child is excited or frightened. The disturbance is usually short and sharp the child holds its breath until it is nearly choked then the spasm relaxes, it takes in a long noisy breath which sounds rather like the "whoop" of whooping cough. Sometimes, but rarely, general convulsions will supervene.

In some cases the breathing has habitually a crowing sound but the alarming attacks are not frequent.

In this disease there seems to be a mixture of nervous, rickety and dyspeptic troubles.

Treatment. Dash a small quantity of cold water on the child's face, slap its back and shake it, but not violently. Pass a finger into the back of the throat. Prevention is much better than cure, attend to the child's hygiene, give him wholesome food, and fresh air and regulate the bowels. Unnecessary excitement should be avoided. Efforts should be made to teach the child self control and how to govern its temper.

Chorea. Chorea, or "St. Vitus' Dance" is not often seen in very young children but chiefly from about five to fifteen years of age.

It comes on gradually, the grimaces and awkward movements being often attributed to naughtiness. The movements however become more and more spasmodic and violent, and after a time there may be some weakness of a limb and more rarely some failure of mind.

The children who are predisposed to chorea are those who come of a nervous family, those who have lived under bad circumstances, and those who suffer in any way from mal-nutrition.

There is certainly some connection between rheumatism and chorea, and in both these diseases there is a liability to disease of the heart. The commonest exciting cause is fright or some other violent emotion, but over strain at school and worry of any kind is apt to be followed by chorea in children who are predisposed to it.

Treatment. Children who are delicate and especially those who are predisposed to nervous disease should live under the best possible conditions and should be carefully guarded from overstrain of body and mind. If

a child shows any signs of irregular and awkward movements of face or limbs he should be taken from school and put to bed. A week or two of rest without excitement and on simple food will possibly prevent an attack.

If the disease be evidently established the most essential treatment is absolute rest of body and mind. The sides of the bed should be high and well padded to prevent injuries. It will be necessary to feed the child and sometimes it is a difficult task. Tepid sponging twice a day is both pleasant and useful.

The bowels must be kept freely open, the food must be nourishing and digestible, no one should visit the patient except the doctor, nurses and parents, because other visitors are a certain excitement and so interfere with the treatment.

The drugs usually given are arsenic and iron; they must be taken steadily for months. If the child is sleepless, chloral and bromide may be ordered by the doctor.

The rest cure must be continued until the movements have ceased, but when they have become very slight, massage will be useful and still later Swedish exercise and musical drill will help the child to recover intelligent control over his muscles.

Hysteria may occur in any child beyond the age of infancy and is sometimes difficult to diagnose. Hysterical imitation of paralysis and of disease of the joints is sometimes very close. Mental, and moral hysteria closely simulate insanity. Such cases are difficult even for doctors who have given all their lives to the study of nervous disease.

The more ordinary attacks of hysterical laughing, crying, screaming, and kicking should be treated with purgatives and tonics and especially by a wise, kind and firm management. Much may be done by helping the child to gradually control himself and by putting away all things that tend to arouse the emotions.

There is such a thing as hysterical fainting which may be known from ordinary fainting by the fact that it only occurs when the patient can fall without hurting himself whereas in true fainting, and in most other forms of sudden unconsciousness, the patient is often seriously hurt by the fall.

CHAPTER X

DISEASES OF THE GENITO-URINARY ORGANS

STONE IN THE BLADDER

VULVITIS

PHIMOSIS

VAGINITIS

PARAPHIMOSIS

INCONTINENCE OF URINE

Stone in the bladder is not an uncommon disease in boys and is much commoner in some districts than in others.

Symptoms. If old enough to talk the child may complain of pain at the end of his penis, and usually he pulls at it and fidgets much in the attempt to procure relief. Consequently the fold of skin (the prepuce) which covers the end of the organ in uncircumcised boys is often long, sore and tender, often there is pain in the perineum (the part between the penis and the anus). The bladder is irritable and the child is obliged to frequently pass his urine. The urine is often thick and may contain both pus and blood.

The longer a stone remains in the bladder the larger it grows, therefore the sooner it is extracted the better, and if the symptoms of stone are present medical advice should be sought at once.

A small stone is sometimes detained just at the opening of the penis and can be easily removed with slender forceps. Until removed it blocks the passage of urine, causing much pain and distress.

Very rarely girls suffer from stone in the bladder. Should one form it usually escapes through the wide and short urethra. Other conditions may be mistaken for stone in the bladder, especially inflammation of the bladder, tumours of

the bladder, and the easily remediable phimosis and worms.

Phimosis is often seen in male infants. The prepuce cannot be drawn back because the opening in it is too small for the end of the penis to project through it. In some cases adhesions form between the prepuce and the penis and interfere with the uncovering of the latter. When the baby is about to pass water the penis swells and the tight prepuce presses on it very painfully. The child cries and frets and often neither mother nor nurse can understand why.

It is necessary that the prepuce should be capable of allowing the passage through it of the end of the penis both for the child's comfort at the moment and also in order that the end of the organ may be kept clean and free from secretion.

The little operation of circumcision is done to secure these objects. The pain of it is slight, there is no danger in careful hands and the advantages are very great.

Paraphimosis occurs where a tight prepuce has been forced back and partly strangles the end of the penis. The condition is very painful and needs immediate attention. The swollen foreskin (prepuce) should be carefully washed with warm Condylion lotion and then pinched with a needle which has been boiled. This allows the fluid to run out, then the end of the penis must be pushed back by the thumb while the fingers draw the prepuce forwards. If this simple method does not succeed, the child should be seen at once by the doctor. If all male babies were carefully circumcised this accident would not occur.

Sometimes a little boy is found crying and evidently in pain, on examination it will be found that the foreskin, or the penis itself, has been tied round with a thread, a horsehair or fine string. The constriction should be removed and a fomentation applied.

Many little boys acquire a habit of handling, rubbing, or pulling the penis. This may be due to phimosis, to soreness from irritating secretion between the prepuce and the penis, to the presence of stone or some other disease. All such causes of irritation should be removed, usually circumcision ought to be advised. If the habit lingers the dangers and the impropriety connected with it should be explained so far as the boy is able to understand them.

Diseases of the external organs in girls.

Vulvitis or inflammation of the external parts is not uncommon in little girls, especially in the weakly and in cases where extreme cleanliness is not maintained.

The mother's attention is generally drawn to the presence of discharge on the child's clothes, or to its frequent rubbing of the part and evident discomfort. The inflammation varies in degree and may be severe in neglected and dirty children especially during, or after, fevers such as measles.

As a rule the only symptoms are redness and soreness of the parts with a moderate quantity of sticky discharge.

Mothers, especially in the poorer classes, sometimes think that this condition shows that the little girl is the victim of some bad man or boy. Such a misfortune is possible but it is rare compared with the ordinary causes of the trouble such as—dirt and neglect, fevers, worms, and tight clothes, especially drawers that are too short in the fork.

Treatment. The cure is always quickest when the child is undressed and kept in bed. This entirely removes the friction of the clothes, prevents the child from getting overheated at play, and lessens congestion.

The next point is the establishment, and maintenance, of perfect cleanliness. If the discharge has dried on to the tender surface it must not be roughly removed but should be softened by a warm poultice of bread and milk well smeared with salad oil, afterwards the parts should be bathed night and morning with lead lotion and warm water equal parts—or with a lotion of hazeline one part to water eight parts. The surface should be smeared with hazeline snow, hazeline cream, vinolia cream or some aseptic grease until all redness and soreness subside.

If worms are suspected the child should be treated for them and any discoverable error of diet or deviation from health should be corrected.

Sometimes external soreness is caused by a discharge from the vagina (passage to the womb). This is most likely to occur in delicate children, after illnesses, and as the result of infection.

The treatment in these cases must include syringing. A small piece of india-rubber tubing should be fitted on to

the ivory nozzle of an enema syringe. This can be gently inserted without hurting the child and then about a pint of the lotion prescribed can be slowly pumped in.

It is still better to attach a piece of the eye end of a No 9 female flexible catheter to the nozzle by means of india-rubber tubing. The lotion used may be the hazeline lotion, lead lotion diluted with four times its volume of warm water, condy lotion or an alum lotion, half a teaspoonful to a pint of warm water.

Incontinence of urine is the natural condition in young infants but quickly ceases as the child grows in intelligence, much depends on the vigilance and care of the nurse or mother, (see p 18). Incontinence in older children is usually a mere trick the result of the child disregarding the call to relieve the bladder—sometimes it is due to irritability of that organ as in cases of stone, worms, etc. Very rarely is incontinence the result of some malformation, when it is so the incontinence is generally present both day and night.

Nocturnal incontinence, bed wetting, is sometimes caused by indolence first on the part of the nurse who has neglected to teach the child good habits and secondly on the part of the child who will not leave his warm bed when he feels the need of urinating. The call being habitually disregarded passes unnoticed.

This habit must be corrected but not by whipping—measures must be taken to strengthen the child's will and power of self control, he must be taught to attend at once to the calls of nature in the day time as well as at night. A doctor should be consulted in order that any disease or malformation may be detected and, if possible, remedied.

If nothing wrong can be found the case becomes one for domestic management. The child should have no drink immediately before going to bed, his food all through the day must be simple and unstimulating, he should not have too soft a bed, and the bed clothes must not be heavy. It is a good thing to raise the foot of the bed about six inches to take the pressure off the most sensitive part of the bladder, for the same reason the child should not lie on his back but sometimes on the right sometimes on the left side. This can be secured by taking a large silk handkerchief, folding

it cornerwise, and tying a knot in the middle. This handkerchief is to be worn at night round the child's waist with the knot adjusted over his spine. He will be quite comfortable so long as he lies on either side but when he rolls on to his back the knot will make him uncomfortable and he will lie on his side again.

Another help is to accustom the bladder to empty itself at certain times. First it must be ascertained at what hour the accident occurs. If this be once only in the early morning an alarum should be set and the child must rise as soon as he awakens—*instantly*. If the child is very young the nurse must get up and attend to him. If the bladder empties itself several times in the night the child must be awakened before the nurse goes to bed and again at whatever time it may be found necessary. This may seem a troublesome arrangement but no trouble is too great to cure a child of so disagreeable and incapacitating a habit.

Incontinence of urine may be a sign of general mental feebleness, or of some definite physical trouble, therefore the child who suffers from it should, if possible, be carefully examined by an experienced doctor before any treatment is commenced.

Drugs are sometimes useful but those that are most effectual (Belladonna and Strychnia) are too dangerous to be used except under the direct order of the doctor.

Sometimes treatment by suggestion is successful. In the case of a young lady who had been placed under the influence of chloroform in order that she should be examined a complete cure was obtained through the suggestion of the nurse who stood by her as she was recovering consciousness and who said in the most emphatic manner "you will never wet your bed so long as you are here."

If a child wets his bed measures must be taken to prevent damage to the mattress and blankets. They must be protected by waterproof sheeting over which is a double folded bath sheet carefully tucked in at each side. This bath sheet should be washed in warm water and well dried every morning. The waterproof sheet should be scrubbed with 1 in 40 Carbolic lotion. The child's clothes should also be rinsed with warm water and dried in the air.

CHAPTER XI

ACUTE INFECTIONS

i	SCARLET FEVER	viii	SMALL POX
ii	MEASLES	ix	VACCINIA
iii	GERMAN MEASLES	x	WHOOPING COUGH
iv	ENTERIC FEVER	xi	INFLUENZA
v	TYPHUS	xii	TONSILLITIS
vi	DIPHTHERIA	xiii	MUMPS
vii	CHICKEN POX	xiv	MALARIA

Scarlet Fever or Scarlatina—is an acute infectious disease characterised by inflammation of the tonsils, a diffuse red rash and fever. It varies greatly in severity being at times so mild as to escape detection and at other times so severe as to prove fatal within a few hours. The mortality is about ten percent ; but is much higher in children under five years of age. Previous health seems to make little difference to liability to infection ; but while healthy children are as likely to take the fever as are the delicate, and although a severe or malignant attack may prove fatal to the previously robust, yet children who are sickly or badly nourished are likely to succumb even to a mild attack.

Period of Incubation. Usually two or three days ; although sometimes it may be a few hours only, and it may possibly exceed five days.

Premonitory Symptoms. In little children the earliest symptoms is generally vomiting or an attack of convulsions, but in older children there may also be frontal headache, sore throat, shivering and the peculiar feeling of undefined illness known as malaise. The symptom of all others to raise suspicion of scarlatina is

sore-throat and if this is combined with vomiting, diarrhœa and fever the diagnosis is extremely probable.

Symptoms in ordinary cases. At the end of forty-eight hours from the attack of vomiting the rash usually appears. The rash consists of bright red dots surrounded by paler red areas, but at a little distance the skin appears uniformly red. The redness varies with the perfect development of the rash being at first faint and difficult to see but usually reaching its typical appearance in two or three days, it lasts two or three days and then fades away disappearing entirely by the end of a week. In some cases the rash is so slight as to escape observation, especially as it may be confined to the chest, or back, and is seldom or never seen on the face which however may be red with a ring of whiteness round the mouth. Sometimes the rash is patchy and may lead to a mistaken diagnosis of measles. Lastly the rash may be hæmorrhagic, tiny escapes of blood occurring under the skin, this is commonest in cases that end fatally but it has been seen even in mild attacks. When the rash fades

“Peeling.” “peeling” begins. This is usually in considerable flakes quite unlike the branny desquamation of measles. The parts most affected are the extremities where the skin may separate like a shoe or a glove, entire or in large fragments. This process takes a long time and may be repeated more than once; until it has finally ceased quarantine must be carefully observed.

Mouth, throat and nose. The tongue is at first thickly coated with white fur and when that is shed it remains too clean and red showing prominent red dots due to the swollen papillæ. This condition is known as “strawberry tongue.” The throat and especially the tonsils are red, swollen and covered with abundant secretion, usually yellow. Sometimes membrane is present and frequently the tonsils show numerous yellowish spots. There is usually a discharge from the nose, yellowish but not offensive.

Temperature and pulse. The temperature varies from 103° to 105° F. in ordinary cases and the pulse from 120 to 150.

Sometimes there is evident headache and delirium, sleeplessness, and in young children convulsions.

In malignant Scarlatina the course may be extremely rapid and the child may die from the effects of the intensity of the poison without there being time for the development of the rash and the other ordinary symptoms. Such cases are terrible not only in the rapidity with which a healthy child may die, but also from the great probability that no isolation may be attempted, and from the virulence of the infection which may spread to the whole family or neighbourhood.

Malignant cases.

In other cases the fatal issue may not be so sudden but the violence of the disease shows itself in sloughing of the throat, in very high temperature, in septic pneumonia, or in septic inflammation of the kidneys. On the other hand

Mild cases.

some cases of scarlatina are so mild, with so slight a sore throat and so moderate a temperature, that the child may be up and about as usual and no suspicion is raised until peeling commences, dropsy sets in, or other children in the same house develop ordinary attacks.

These mild cases are dangerous to the patient, because no care being taken complications are common, and also to the household from the absence of all attempts at isolation.

Complications. The throat may suffer out of all proportion to the general condition, there may be severe sloughing, the formation of false membrane which may extend to the air passages, or ulceration which may ultimately lead to a rapidly fatal haemorrhage. Sometimes there is brawny inflammation of the neck which goes on to the formation of abscess and sometimes spreads to the chest when it is usually fatal.

Inflammation of the ear. Inflammation of the ear is a frequent occurrence both during the fever and during convalescence. It is not always fatal but may lead to abscess in the brain, or lung, or to permanent deafness.

Inflammation of the joints. Inflammation of the joints, is not uncommon and may sometimes be of a truly rheumatic nature but this is not always the case, sometimes the swelling of the joints is septic in character.

This complication is a serious one and usually occurs in severe cases, or after the mild attacks that are not recognised and are therefore neglected.

Inflammation of the kidneys, is one of the commonest and most important of the complications of scarlet fever. It usually comes on when the patient is convalescent and is simply in quarantine for the sake of others. The kidneys have shared with the skin in the elimination of the poison and are doubtless left in a very susceptible state, in which a slight chill, over fatigue, or an error in diet may induce inflammation. The onset of this trouble is usually announced by puffiness of the face, restlessness, feverishness and thirst. These symptoms should lead to the suspicion that the kidneys are affected and on testing the urine albumen will be found. If these signs pass unnoticed, the urine may be next noted to be red, or dark, or smoky from the admixture of blood in varying condition or quantity. Another sign of this kidney trouble is dropsy which may first appear in the face but usually affects the whole body and is sometimes the first sign which leads to a suspicion that the child has had scarlatina. In bad cases the condition of the kidneys is such that the poisonous elements are unable to escape and then severe symptoms come on, and very often the patient dies from heart failure, from affections of the brain or other important organs as shown by coma, convulsions, uncontrollable vomiting, diarrhœa, etc.

Diagnosis Diagnosis even by a skilful doctor is not always possible. Some cases are so typical with characteristic rash, tongue, throat and fever-range, that anyone can think themselves certain, while in other cases nothing is typical and no certain opinion ought to be given. In private practice among children of the well to do this dilemma means anxiety to both parents and doctor, but ready isolation and correct treatment of the patient prevent any extra danger. It is quite different in the case of the poor, under their circumstances to pronounce a case scarlet fever means sending the patient to the appropriate ward of a fever hospital, where the child will almost certainly take the disease if it has not got it already. On the other hand a negative diagnosis means keeping the invalid among other children who will be promptly infected should the ailment prove to be scarlet fever of a mild and not easily recognised type.

Treatment. The obvious duty of parents, nurses and doctors is to attend to all childish ailments without delay. A child who has vomiting, or diarrhoea, combined with feverishness should be isolated at once and the precautions described at page 22 should be taken. In most cases the diagnosis will be clear by the end of forty eight hours and the child who has had vomiting, fever and a red rash from acute indigestion (see page 37) will be well again, while the child who has scarlatina will show the developed symptoms of the disease.

Immediate isolation and bed.

In any case an ailing child is best in bed in a large, airy, but sufficiently warmed room; and in the case of scarlet fever he is safest there for three weeks until the risk of the chief complications is passed. It is very difficult to keep a child in bed after a mild attack when he is feeling and looking well, but it is just in these cases that, owing to chill or errors in diet and exercise, the saddest cases of kidney or "rheumatic" trouble supervene.

Bath.

Where a warm bath can be given by the fire and out of all draughts it is well to put the patient to bed with a clean skin or when this is not possible he must be washed between blankets. This blanket bath should be repeated daily (page 27).

Food.

The food in the case of all children must be milk suitably diluted with barley water or soda water and in cases where there is much nausea, vomiting, or diarrhoea it should be peptonized. After the first week when the fever has subsided and the rash has faded, older children may have bread and butter, milk puddings, junket and the various foods such as Benger's, Mellin's, Savory and Moore's, and Allen and Hanbury's. They are better without beef tea, meat essences and meat, because these articles of diet make more demand on the kidneys for their excretion and the kidneys are sufficiently taxed in getting rid of the poison from the body.

If thirst is distressing frequent small drinks of cold water or barley water may be given, but lemonade and imperial drink are unsuitable if there is diarrhoea or nausea.

The skin.

After the daily blanket bath, the skin may be anointed with weak carbolised oil or

lanoline or vaseline or terebene, or cajuput oil or eucalyptus oil or twenty drops of carbolic acid to the ounce. This will facilitate peeling.

the throat. The doctor will probably order that the throat should be sprayed or painted, and the child's comfort and safety demands that this part of the treatment should be carefully carried out. The mouth, throat and nose are usually full of mucous or mucopurulent secretion which is highly infectious and often very foul. This secretion is a source of danger to the attendants and also to the patient. The child has probably neither the power nor the intelligence to expel the secretion, much of which is swallowed and causes nausea, vomiting and diarrhoea. Some may be inspired and cause a very dangerous septic pneumonia, while the extension of the infection to the ears may set up inflammation of these organs with its dangers both immediate and remote.

It is no easy matter to attend to the throat of a child who is too young to be readily obedient, too frightened to be coaxed and too ill to be coerced. In such cases the little patient must be wrapped in a blanket, or bath sheet, and firmly held by one attendant while another thoroughly cleanses the throat and applies the medicine ordered. This is most easily done by means of a little ball of absorbent cotton securely held by forceps or tied on to the end of a stick.

Plain glycerine answers well for the preliminary cleansing and brings away much of the sticky discharge. If there is much nasal discharge gentle syringing will be necessary, warm boracic lotion or tincture of iodine a teaspoonful to a pint of warm water or weak condy lotion may be used.

Still better listerine or sanitas a tablespoonful to a pint of tepid water may be used.

All wool, lint, and Japanese handkerchiefs used in infectious illness must be burnt immediately.

For earache or tenderness round the ear a drop of warm glycerine and laudanum or glycerine and carbolic may be instilled and a warm boracic fomentation (renewed every two hours) should be applied over the ear and the side of

the neck. If discharge occurs from the ear it must be syringed once in four hours with warm boracic lotion and some dry boracic powder blown in afterwards.

To reduce temperature. Packs and baths should only be given under medical orders. They are sometimes very effectual and in the case of little children who can be handled easily and without fatiguing or alarming them are less open to objection than in the case of heavy adults. See Section on Nursing, p. 28. Internal medicines are of little use in uncomplicated cases of scarlatina. The bowels must however be carefully regulated avoiding both constipation and diarrhœa while, the complications and grave symptoms which may develop need the care of a skilful physician.

Measles. Measles is an acute infectious fever characterised by running of the eyes and nose with hoarse, or croupy, cough and fever. The rash usually appears on the fourth day from the outset of what appears a heavy cold. The rash is crimson in colour, less bright and less diffused than the rash of scarlatina. The small spots or papules often

The Rash. appear in crescentic patches first seen on the forehead near the hair. With the rash there is a slight puffiness of the skin and a general congestion of the surface, the eyes especially showing this by being red and watering. The rash comes out in successive crops commencing on the face, neck, and arms ; then it appears on the body, and last on the lower extremities, so that when the rash is fully developed on the legs it has begun to fade on the face. As soon as the rash fades the surface layer of the skin begins to be shed in fine, branny scales in the same order as that in which the rash appeared.

Desquamation. The tonsils are not so vividly red and swollen as in scarlet fever but they are red and sometimes show distinct red papules surrounded by a ring of lighter red.

The throat. The temperature rises each evening from the onset of the disease and falls a degree or two in the morning. By the fourth day at the time of the rash appearing it may have reached 103° to 105° . The temperature remains high until the rash is

fully developed and then rapidly subsides unless some complication is present.

The duration of the disease is about a week in uncomplicated cases. Four days between the initial symptoms and the appearance of the rash and about four days duration of the rash. After this time the rash and temperature subside, the headache and other symptoms abate and the child is pretty well again.

Mild cases. Sometimes there is but little rise of temperature and the rash is so slight as to need careful observation but the child seems to have a heavy cold with well marked throat symptoms. The voice is altered, the cough troublesome and croupy. These cases need special care for they are likely to pass unrecognised and the patient being neglected develops complications, he is also a source of infection and danger to others.

Severe cases. In all epidemics of measles some severe, and malignant cases occur. In the latter, the fever rises high, the pulse is quick and weak, the heart's action fails, the tongue is dry and brown, the teeth and lips are covered with *sordes*, the rash may be scanty or exceedingly abundant, it is dark in colour giving rise to the popular name of "black measles" and often there are small escapes of blood into the skin. In other cases the disease begins in an ordinary manner but is soon complicated by severe bronchitis or inflammation of the lungs. Sometimes the chief complication is a formation of false membrane in the air passages giving rise to such difficulty of breathing as to need tracheotomy.

Complications. In delicate children, especially in those who have a tuberculous taint, the deep glands of the neck may be swollen and painful; severe ulceration of the mouth or throat may occur, and inflammation of the ear which however seldom leads to abscess, as is too often the case in scarlatina.

Diagnosis. Measles may possibly be mistaken at first for scarlatina but the initial symptoms of a heavy cold common in measles are very uncommon in scarlet fever. The commonest error is to mistake measles for rubella (German measles) and *vice versa*. This error is pardonable for one form of rubella closely stimulates

measles while another can scarcely be distinguished from the early stage of scarlatina. It is also possible in some cases to be for some hours doubtful whether the little patient has measles or modified small pox but all doubt would end on the morning of the third day when the characteristic eruption of small pox appears. The practical lesson to learn from these difficulties of diagnosis is to carefully isolate all ailing children.

Treatment. The chief necessity is to put the patient to bed and to maintain an equable temperature in the room. The most troublesome symptoms and the worst complications of measles are due to implication of the respiratory organs and are best met, or prevented, by the supply of pure, fresh but warm and slightly moist air.

The temperature of the room should be maintained at 65° and a bronchitis kettle used, especially during the prevalence of cold, dry winds or when the throat and chest symptoms are specially prominent. The daily "Blanket Bath," must be used and will do much to allay restlessness and itching of the skin. Inunction with carbolised vaseline or oil is useful, and certainly prevents the wide diffusion of the branny scales during desquamation. The bowels must be carefully regulated, preferably with moderate doses of Fluid Magnesia with or without lemon juice and water. In measles there is often a tendency to diarrhœa which must be borne in mind.

The diet should be of milk, milk and barley water, milk and soda water. In slight cases, and during convalescence bread and butter, bread and milk, hominy, milk puddings and the various "foods" may be used, orange juice, roasted apples and grapes without skins or pips may be given when there is no diarrhœa. As in all fever cases the patient should be allowed to drink freely of cold water, toast water, barley water, and home made lemonade. Of course large quantities at one time should be avoided and this is best done by giving the patient the proper allowance and not by stopping him in the middle of his drink.

**Baths and
packs**

In severe cases with high temperature and an ill-developed rash, warm baths and packs are often useful.

Probably in a few hours a rash will be well developed, the fever lower, and the breathing greatly relieved. This bath may be repeated after a few hours if necessary.

Small doses of sweet spirits of nitre with Liquor of Acetate of Ammonia will help to relieve the fever and develop the rash, while in cases where there is much cough and tightness of the chest a few drops, two to ten (according to the age of the child) of Ipecacuanha wine with an equal quantity of Paregoric in honey or glycerine and water will loosen the phlegm and make the cough less distressing.

Quarantine. There is no doubt that measles is extremely infectious, and that the infection from the breath and saliva begins so early in the attack that isolation is seldom sufficiently prompt to avert the spread of the disease to other children. It is also certain that one attack of measles does not prevent a second and that some individuals appear to take the disease as often as they are exposed to the infection.

Apparently the infection of measles is not so persistent as is that of scarlet fever and that an isolation of three weeks is usually sufficient if the child, its clothes, and its surroundings are properly disinfected (page 25).

The mortality of measles varies greatly and much depends on the intelligent care bestowed on the patient. The treatment is not so much a matter of drugs as the securing of sanitary surroundings, equable temperature and suitable food. Hence the mortality is slight among the children of the educated classes, but severe among the children of the poor in the slums of large cities.

Rubella, or German measles, sometimes called R  theln, comes fitly after the description of scarlatina and morbilli or ordinary measles. While quite distinct from both these diseases and having well marked characters of its own, some individual cases are difficult to distinguish from scarlatina and others from measles. In a characteristic case the rash often precedes any other symptom, which is quite unusual in either measles or scarlet fever, and there is commonly enlargement, and tenderness, of some of the glands of the neck. The rash in R  theln is rose red

and more diffused than the rash of measles but it is always papular. The child seldom feels ill and there is very little fever. These cases are often confounded with an attack of acute indigestion in which, however, the child is usually much more ill.

Diagnosis from measles In the cases which resemble measles there may be much uncertainty, but generally speaking the rash is brighter in colour, less crescentic in arrangement, and appears on the second day or earlier. The fever is usually slight and the implication of the respiratory organs is less well marked than in measles. Still cases have occurred with serious symptoms and trouble both in the larynx and the lungs.

Diagnosis from scarlet fever In the cases which most resemble scarlatina there is a copious red rash which somewhat resembles that of scarlet fever, but which is never really punctiform (like dots) and is of a less scarlet, more of a rose-red, colour. There may be vomiting and some sore throat, but if the case were really scarlet fever so copious a rash would be accompanied with a more serious general condition.

Treatment The treatment is simple if the diagnosis is difficult—all ailing children must be isolated, bathed, put to bed, and have a milk diet with mild aperient medicine until the nature of the illness is evident, as it will be in a few days.

Enteric, or typhoid, fever occurs even more commonly in children than in adults. Fortunately the disease in them usually runs a mild course, and with proper care few young people under twenty years of age die of enteric.

It is very important to recognize the disease for its onset is insidious, and long before the diagnosis is certain the patient is a centre of infection. Not only does the infection

Modes of Infection spread from the patient to those in immediate contact with him, but also from drains and water closets into which stools are thrown, and from the fouling of the water and milk supply and of food and utensils in general. The faeces and urine are the chief carriers of the bacillus, or germ, of typhoid, but they may be conveyed in unsuspected ways; as for instance, on the fingers of a nurse who having washed a typhoid

patient does not disinfect them before taking her food or before attending to other patients.

Period of Incubation

The time of incubation varies but is usually from fourteen to twenty-one days. The insidious character of the onset makes it difficult to say when the illness begins. Exceptional cases are found in which probably the early symptoms have passed unnoticed for the illness seems to begin abruptly with sickness or diarrhoea and a temperature of 103° or higher. Usually the early symptoms are thought to point to some digestive disorder, or in tropical countries to exposure to the sun or to malaria. There is headache, a sense of fatigue, a furred tongue, loss of appetite, and either constipation or diarrhoea. The nights are restless and if the temperature is taken it will be found to rise gradually.

Temperature

The rise is from a degree to a degree and a half each night while the fall in the morning amounts to about half the rise. In consequence the temperature chart presents a series of steps and reaches 103° or 104° in about four days. During the second week it will be about this height every night with a slight morning remission. From the fourteenth to the twenty-first day the temperature oscillates with big swings up and down while in the fourth week it falls much in the same gradual way as it rose, and reaches normal. At this time, especially in children, the morning temperature may be subnormal. Exceptionally severe cases may show a greater general elevation, wild fluctuations, or a more prolonged fever; while very mild cases, especially in children, often seem to come to an abrupt conclusion.

The rash

The rash should be looked for on the abdomen about the end of the first week. The spots greatly resemble flea bites, but if looked at through a lens they show no central puncture. They are small, oval, pink spots which at first disappear on pressure—they come out in successive crops daily for a week or two. They may be very few and confined to the abdomen, but sometimes they are numerous and are widely distributed over the body.

The tongue is at first covered with a thin white fur, but has a tendency to dry and is sometimes glazed. In the

General Symptoms

later stages of severe or fatal cases it becomes very dry, brown, and like the lips and gums it is covered with sordes (crusts). The abdomen is full and tender and pain may be complained of low down on the right side. The bowels are sometimes constipated sometimes relaxed, but diarrhœa with yellow offensive stools is not common with children. When delirium occurs towards the end of the first week the patient ceases to complain of headache. If it still persists it is no longer heeded. The delirium is seldom violent but the child is restless and talks nonsense.

In bad cases the course is much longer and the symptoms are aggravated.

Complications

There are few diseases with so many complications, few in which there are such a variety of troubles to be feared. However, children as a rule pass through the disease safely. Among the troubles are a tendency to relapse and after a period of little or no fever and general improvement to have another and perhaps a worse attack. Sometimes this can be accounted for by some apparently trifling error of diet or some little fatigue but often no explanation can be found. Among the worst dangers of enteric are an aggravation of the usual bronchitis and congestion of the lungs, and severe ulceration of the bowel leading to acute and fatal peritonitis or to severe hæmorrhage from the bowel, bleeding from the nose is a common early symptom, but is seldom of importance. Heart failure is much to be dreaded in the rare cases where the fever is very high and where much fatigue or improper food have handicapped the patient from the beginning. Acute tuberculosis may come on during the fever or may develop when convalescence is more or less advanced.

Slow Convalescence

The convalescence from enteric fever is slower than from any other acute infectious disease; and whereas the sudden crisis of typhus is rapidly followed by a return to perfect health the slow decline of the temperature and symptoms of typhoid are sometimes followed by months of invalidism and of anxiety, a child often forgets how to talk and how to walk, he seems to have lost nearly all he has previously learned,

and sometimes seems as if he would never recover health of mind and vigour of memory. The feebleness of body and mind remain well marked and the tendency to consumption, to bad digestion, to constipation, and to all sorts of ailments makes the convalescence from typhoid a miserable time for the patient and his friends. Still we must remember that all these troubles usually subside and with care and good nursing permanent damage seldom occurs.

Treatment

Much depends on early rest and suitable diet, and typhoid like most other febrile diseases impresses on those who have the care of children the necessity of putting to bed and of isolating all ailing children. As to the special treatment of typhoid the chief point is the regulation of the diet. Absolutely no solid food can be given until the temperature has been normal at least a week, until this time the child must be fed regularly with milk, peptonised milk, or milk and barley water. In some cases milk does not agree and greatly increases the constipation, in this case home made beef or chicken essence, Valentine's or Wyeth's meat juice may be given. After a week of normal temperature a little bread crumb may be boiled in the milk or added to the chicken broth, after a few days more very thin bread and butter without crusts may be allowed as an addition to the milk or broth. Also the various milk foods and junket. The next advance is to pounded meat diffused in broth or spread on thin bread and butter. Ordinary food should not be allowed until the temperature has remained normal for a month. Plain cold water and other watery drinks may be allowed in moderation. Great care must be observed in tepid sponging; and in scrupulous cleansing of the parts concerned after an action of the bowels. The mouth, throat, and nose will require washing or syringing and the former should be painted with glycerine of borax to keep it moist and to avoid the accumulation of crusts and discharge. The back, hips, heels and ankles should be rubbed with brandy and salt and well powdered twice or thrice a day, this with perfect cleanliness will generally prevent the formation of bedsores.

The use of purgatives is quite inadmissible in typhoid fever unless the disease is diagnosed very early and the bowels are constipated during the first few days; then a

small quantity of calomel or of grey powder (half a grain to two grains according to the age) may be given and this may be followed by a teaspoonful to a tablespoonful of fluid magnesia. Sometimes the constipation is so obstinate that the lower bowel may be tightly packed with hard lumps of faeces. A cautious attempt at removing these may be made with a plain warm water enema. Sometimes the hardened mass may have to be turned out by the finger, or by the handle of a spoon. Short of this the bowels may be unduly confined and it is an anxious question whether some mild medicine or an oil enema may be given. To leave the hardened masses is to court disaster and yet any medicine, or an enema, may cause fatal injury to the already ulcerated and weakened bowel, of course where a doctor is in attendance the responsibility is off the parents, nor would the matter demand mention here were it not for the sake of those who are far away from medical help. For the benefit of these latter it may be added that an enema is a safer remedy than is medicine; and that diarrhoea—more than four stools a day—should be met by a starch and laudanum enema. The strength of this remedy, like all others, must depend on the age of the child and will vary from one to five drops of laudanum to an ounce of starch.

Typhus fever is rare in England, but occurs more often in Ireland and in Northern India and China and is as likely to occur in children as in adults. It occurs generally in epidemics and is extremely infectious. A second attack is not common.

Incubation The period of incubation varies from two to fourteen days. The disease begins with symptoms of serious illness such as convulsions, drowsiness, headache, high fever, vomiting and constipation. One character of the disease is that the child is at once very ill, there is no gradual and insidious onset as there is in Typhoid fever.

Early symptoms The temperature rapidly rises to 104° or 105° F. and remains at this level with little variation for one or two weeks. Then in favourable cases it quickly becomes normal and the child is well in a surprisingly short time—another contrast to the slow convalescence of Typhoid.

The rash The rash of Typhus comes out later than that of the other infectious fevers except Typhoid. In Typhus there may be some early rose red rashes but the typical "mulberry" rash usually appears about the fifth day. It is first seen on the abdomen and chest, and is most abundant in the parts which are most protected from chill, the face and neck being almost free. The rash consists of two portions; one a general dusky red mottling of the surface and the other groups of red spots, slightly raised above the surface—this gives somewhat the same appearance as the measles rash but it is not in crescentic patches, it does not follow the same order of appearance, and is from first to last scanty or absent on the face. Sometimes blood is effused into the eruption and is specially likely in bad cases.

The Tongue The tongue is coated with white fur, but later on in the disease becomes brown or black, very dry and incapable of protrusion. The gums are black, and like the teeth and lips, are covered with sordes (crusts).

Delirium Delirium is a well marked feature in Typhus. It may be low and muttering or at times violent so that the patient needs constant watching. There are other signs of nervous disturbance such as picking at the bed clothes, twitching of the muscles, and sometimes convulsions.

Appearance of patient The child lies on his back, the face is flushed, the whites of the eyes are red, the patient is usually unconscious or quite indifferent to all around him. The symptoms grow constantly worse up to the crisis, which occurs from the eighth to the fourteenth day. The temperature remains high, the pulse is quick and feeble, the respirations are hurried, and the delirium continuous. Suddenly there is a change, the symptoms all abate and the child, though still very weak, is quickly convalescent and passes through no prolonged invalidism.

Mortality Fortunately for anxious parents, the mortality is low in children. The risk is greater in sickly and ill-nourished children, and in those in whom no notice is taken of the beginning of the illness, and whose strength is therefore wasted by keeping about.

Complications Among the commonest complications are severe inflammation of the lungs, gangrene of the lungs, or the extremities, bed sores, abscess of joints and glands, and blocking of the veins with clotted blood.

Treatment The treatment of Typhus is the same as that of fever in general. Careful attention should be given to supplying the patient with nourishing food, especially milk and meat essences. Stimulants are seldom necessary and should be reserved for cases in which the heart is very weak, or where there is inflammation of the lungs, or gangrene. When needed the stimulant should be good old brandy in doses proportionate to the child's age from a few drops to a teaspoonful given in milk or milk food or as egg-flip, once in four or six hours. The headache and delirium may sometimes be relieved by ice bags applied to the head, or evaporating lotions, or Leiter's tubes (see Nursing, p. 31).

Diagnosis Typhus may be mistaken for scarlet fever but differs in the condition of the throat, and in the time of appearance of the rash.

It is also very like some cases of severe septic pneumonia in which delirium, stupor, and a dull red rash appear—the fact that pneumonia often complicates ordinary typhus makes the distinction still more difficult. A third disease difficult to be distinguished is general tuberculosis, but this is commonest in children who have been ailing for some time while typhus attacks the robust as well as the delicate. The differences between typhus and typhoid have been mentioned already.

Diphtheria is one of the most important of the diseases of childhood, partly because its onset is often insidious, partly because of its very serious character, and partly because it is one of the few infectious fevers for which we possess a really reliable remedy and preventive. It is also emphatically a disease of young people; the great majority of cases occurring between two and eight years of age.

Incubation The incubation period of diphtheria is short, from two to five days, less where the infection is direct (as for instance where it occurs from the patient coughing in the face of another person).

Diphtheria is a very infectious disease, readily communi-

cated by contact of the healthy with the sick, easily carried by those who are in attendance on the sick, also by the patient's clothes, books, toys, and eating utensils. Diphtheria is communicated by animals to man, and by man to animals—the most frequent instances being found in the infection of children from cats—and through the milk of cows suffering from the disease. Diphtheria is caused by the reception of a specific bacillus, or germ, into the human body. This germ is very hardy, it flourishes all over the world; and, like the seeds of many other plants, it is often stored up for long periods of time and when it finds a suitable soil it grows as vigorously as ever. It can be destroyed by moderate heat—boiling is sufficient—and by some antiseptics. The bacillus frequently lingers long in throats and noses of children who have had the disease. They are sources of infection to others, hence the necessity for careful attention to the throat and nose during convalescence.

Early Symptoms Diphtheria seldom begins with well marked symptoms, the child generally seems merely “out of sorts.” He is probably pale, languid, loses his appetite, and complains of headache. There is seldom any complaint about his throat, and the temperature is normal, or so little raised as to cause no alarm.

The throat Soon, however, some enlargement of the glands under the jaw can be felt, the throat becomes sore and if examined the tonsils, uvula, and soft palate will be found to be dusky red with probably some swelling. If seen quite early in the disease this may be all, but soon one or more patches of thin white membrane appear. If they appear on the tonsils only these patches may be mistaken for follicular tonsillitis (see page 128) or for the tonsillitis of Scarlatina. In diphtheria, however, there is more often one white patch which increases and spreads and not numerous yellowish spots. Also in diphtheria the membrane is not limited to the tonsils but appears on, or subsequently invades, the soft palate, the uvula and the throat behind these parts. The membrane rapidly thickens, it becomes tough and yellowish, and in bad cases it becomes brown or black from the escape of blood into it. The membrane of diphtheria is closely adherent to the mucous membrane,

in fact it grows on it and in it, and therefore it cannot be wiped away like the specks of thrush (see page 52) the exudation of tonsillitis or small curds of milk. If the membrane be stripped off, a raw bleeding surface is left which is soon covered with fresh membrane.

Extension of the membrane The membrane may extend to, or grow in, the nose causing a very irritating, blood stained discharge, much difficulty in breathing and a snoring noise. It may extend along the tubes leading to the ears and cause earache with subsequent ear disease and deafness. A still more dangerous extension is to the larynx where it causes the symptoms known as "Croup." The first sign of this condition is usually a change in the voice and a ringing, clanging cough. The breathing is evidently obstructed, it becomes noisy and, after a time, whistling. If there is much growth of membrane in the larynx these symptoms rapidly increase, the difficulty of breathing becomes so great that the soft parts of the chest are drawn in with each breath and the increasing lividity of the face and skin in general shows that air does not enter the lungs in sufficient quantity to aerate the blood. The child is at first restless and agitated, he often throws himself about and clutches his throat in the effort to remove the sensation of choking. After a time, if unrelieved, the agitation and efforts cease, the voice and cough are reduced to a whisper, and death from suffocation soon ends the pitiful scene.

The destroying membrane may extend from the larynx to the windpipe and so to the lungs where, if life be sufficiently prolonged, patches of inflammation will occur. In these cases recovery is very rare.

Temperature There is nothing characteristic about the temperature in diphtheria, it may be little above normal from first to last, or may attain a moderate height. In cases where there is septic, as well as diphtheritic, infection it may run very high. and take an altogether irregular course.

Pulse and heart The pulse is feeble and rapid from the first and is the index of the condition of the heart. The diphtheria poison seems to act specially on the heart, and cardiac failure is to be feared

even in cases which run an otherwise mild course. Fatal fainting, or death from pure weakness, often occurs during the course of the disease and sometimes when convalescence has commenced.

Urine

The urine should always be saved for the doctor's examination for in diphtheria the early appearance in it of Albumin greatly helps the diagnosis.

Complications

If diphtheria were considered to be a disease of the throat then all the extensions to the nose, ears, larynx and lungs, with their important results would be regarded as complications. But if we consider diphtheria as a poison affecting the whole system with its chief outward signs in the air passages we shall look on heart failure, inflammation of the kidneys, pleurisy, etc.

Paralysis

as complications. One sequel of diphtheria which must be specially mentioned because although the paralysis which frequently follows even mild attacks is doubtless due to the effect of the poison on the nerves. The connection is not very evident to the public, and parents often forget the apparently trivial sore throat which passed with little notice of apparent danger but which subsequent paralysis proclaims to have been a dangerous and highly infectious illness. The paralysis generally affects the soft palate first and is shown by a peculiar nasal tone of voice and by fluids running out of the nose as well as passing down the throat when the child swallows. There will also be snoring and some difficulty of breathing. If the deeper muscles of the throat are paralysed the difficulty of swallowing becomes marked and may call for feeding through the nose. Sometimes the muscles of the larynx are paralysed. The voice is lost but there is no difficulty in breathing, other muscles such as those of the legs, or arms, or eyes, may be paralysed, but the most important are the muscles of respiration such as the diaphragm and the rib muscles. Total paralysis of these muscles would be necessarily fatal; but it is generally both partial and temporary and death from this cause is not common.

Treatment

The extremely infectious and dangerous character of diphtheria make isolation of the patient and of all who are in contact with him a public duty ;

but unless mothers and nurses are keenly alive to the importance of all illness in childhood the golden opportunity is lost, and one diphtheritic child may infect the whole household, school, or neighbourhood.

In no disease is abundance of fresh air more necessary both to give the little patient the best chance, and by diluting the poison to lessen the danger of infection.

Anti-toxin As soon as suspicion is excited, the medical attendant will take a little of the secretion, or of the membrane away for examination. If, however, the illness occurs where there is no doctor the mother or father of the child must take a new, clean, camel's hair brush previously washed in a carbolic lotion (1 in 20) and then dipped in distilled or freshly boiled water. This should be carefully swept round the throat. The brush should then be put into a previously cleaned bottle and corked up with a new cork. The whole thing should be carefully packed in a small wooden box, then sealed in a waxcloth or waterproof wrapper, and despatched to the Chemical Research Society, Southwark St., London, or to the nearest clinical laboratory, or hospital, with a request for examination, and for the despatch of diphtheria anti-toxic serum and syringe, if the case should prove to be one of diphtheria. The serum should be injected under the skin of the side of the abdomen, which must be first well washed and scrubbed with 1 in 20 carbolic lotion. The quantity to be injected will be marked on the bottle. It is usually one and a half to two cubic centimetres, but varies with the make of the serum. No danger can result from this injection, if made with pure serum and with a syringe which has been boiled immediately before use. There may be a temporary rise of temperature and sometimes a rash or irritation at the site of puncture, but if the case be not already past hope, improvement may be expected within 24 hours. If in addition to the diphtheria there is severe septic sore throat, too much must not be expected from the serum.

Tracheotomy or Intubation Involvement of the larynx demands that the air passage should be kept open. This is attempted in two ways. Sometimes the doctor will introduce a tube into the larynx from the mouth,

and in other cases he will open the windpipe through the skin of the neck and put a tube in that way. It is greatly to be regretted that parents do not know how easy, and, in itself, how slight, is the operation of the tracheotomy. It is also a great pity that they do not realise the wonderful relief it gives to the child. At present many parents will not give their consent until it is evident that the child is dying, and then it is too late. A short relief may even then be given, but the mischief has gone too far and the operation will have been done in vain, so far as saving the life is concerned. It is not too much to say that with anti-toxin to fight against the poison, and with tracheotomy to prevent the blocking of the air passages, diphtheria has become a controllable disease and that the mortality has fallen to about one third of what it was a few years ago. Anti-toxin should be injected in all cases, whether apparently mild or evidently severe, for no one can tell how any case will develop. Tracheotomy should be done as soon as there is evidence that the larynx is affected. The tube is usually soon removed when the danger is passed and the little wound heals rapidly. The performance of tracheotomy is the doctor's work, the after care of the tube belongs to the mother or nurse if she is capable. The child should be put into a steam tent, or the atmosphere of the room should be kept moist and bland by means of a bronchitis kettle with Eucalyptus or Terebene (a teaspoonful) added to the pint of water. The tube must be watched to see that the tapes which hold it in place are not disarranged. It must be frequently cleaned by a feather dipped in a solution of bicarbonate of soda, twenty grains to the ounce of water, and once or twice a day the inner part of the double tube should be removed for thorough cleansing by boiling. The mother or nurse must remember that the child cannot speak unless a finger be put over the opening of the tube.

Cleansing the throat and nose

The adoption of the anti-toxin treatment has relieved the treatment of diphtheria of most of its anxieties and most of its difficulties. Only those who have tried know the extreme difficulty of getting a clear view of the throat of a little child and of making any kind of application to it. The doctor might order gargles, paints, and sprays, and the mother might

conscientiously try to use them, but the struggle involved often did the child as much harm as the remedy, even if well applied, could do good. The influence of the local applications was very brief, and apparently the bacillus is too robust to be injured by the antiseptics that we dare to introduce into the throat. Still the throat must if possible be cleansed, and this may be done by syringing with warm boracic acid lotion or with Condy's fluid a teaspoonful to a pint of tepid water. Powders may be blown in, such as a mixture of boracic acid and iodoform, 1 teaspoonful of the latter to 8 teaspoonfuls of the former. The nose should be treated in the same way, and the ears by the instillation of carbolised glycerine—one part of liquefied carbolic acid to ten of glycerine.

The throat may be swabbed out, as in scarlatina, with absorbent cotton safely held in forceps and dipped in carbolised glycerine, boric glycerine or Condy's fluid and water. The wool must be burned at once.

Medicines The bowels must be kept gently open as the doctor may direct. To remedy the anæmia, preparations of Iron such as the ammonio citrate, the saccharated carbonate, or tincture of the perchloride or the pernitrate may be given. The advantage of these last two, is that when mixed with water (say thirty drops to a tumblerful to be taken in 24 hours for a child five years of age) it is easily and pleasantly taken, especially if sweetened with glycerine. Wine is generally needed—brandy in cases of extreme prostration is often ordered.

If the swollen glands are painful or if there is general swelling and tenderness of the neck, hot fomentations, or belladonna and glycerine on lint may be applied.

Diet The child should take as much milk, beaten eggs, meat essence, and other nourishing food as possible. In diphtheria a distaste for food, apart from difficulty of swallowing, is a bad sign.

Quarantine The child must be isolated until the throat is clean and all discharge from the nose, ears, or raw surfaces has ceased. It is wise to have an examination of the secretion of the tonsils made before allowing the child to mix with others. Probably six weeks to two months' seclusion will be found necessary, and

meantime the child cannot leave home except by ambulance and a special railway carriage which must be subsequently disinfected.

If the child is old enough the disinfection of the throat may be hastened by the use of an antiseptic gargle, or by continuing the swabbing of the throat with disinfectants.

Chicken-pox or varicella is one of the common diseases of childhood, and is scarcely seen except in children.

Symptoms Premonitory symptoms are usually absent and the first thing to attract attention is the rash. This consists of small rose-red spots which quickly become vesicles—the child looking as if a shower of drops of boiling water had touched him—each vesicle is clear and hemispherical. If pricked a vesicle collapses altogether, a little limpid fluid escaping. In a short time each vesicle is surrounded by a pink area. The vesicles appear on the body and limbs, less fully on the face. This distribution may be contrasted with that of smallpox in which the eruption is most abundant on the face. The crops of vesicles come out day by day for four or five days, each crop lasting a day or two and then drying, forming scabs and dropping off leaving unbroken and healthy skin.

Temperature The temperature is seldom very high but is in close relation to the eruption, rising with its appearance, in proportion with its abundance, and falling with its disappearance.

General Symptoms The child seldom seems ill; there is some quickening of the pulse, and some coating of the tongue, but generally the patient complains little and continues his play. The prognosis is good.

Tuberculous children The children for whom an attack of chicken-pox is to be dreaded are the tuberculous. In these, and in the exceptionally feeble, a fatal attack of acute tuberculosis may follow chicken-pox, or any other fever, and sometimes the pocks instead of healing leave deep and spreading ulceration of the skin which may eventually prove fatal.

Treatment The child is safest in bed while the eruption persists and fever is present. The diet should be chiefly milk and very light aliments as

advised in the case of the other fevers. The skin may be anointed with one of the disinfectant pomades (see footnote, page 48).

Diagnosis The characteristic vesicular eruption of varicella may be preceded by a general red rash which might suggest scarlatina, but the absence of symptoms would prevent the mistake. A more likely error would be to mistake an attack of modified smallpox for chicken-pox. The vesicles of both diseases are at first clear and hemispherical those of smallpox altering later ; but in chicken-pox the eruption is the first sign while in smallpox forty-eight hours of fever, backache and vomiting precede the eruption of shot-like pimples which afterwards become vesicles.

Quarantine The child must be isolated until all scabbing has disappeared and the skin, especially the skin of the hairy scalp, is quite smooth and healthy. This will probably be complete in three to four weeks. It must be remembered that the infection can be conveyed by friends and attendants, also by toys, clothes, and books.

Small-pox or Variola must be considered in two forms, the natural and the modified. The natural form of smallpox unmodified by vaccination is one of the most formidable of diseases, and is specially fatal in children. Those under one year are said to be less liable to smallpox than are adults, but on the other hand nearly all children under one year of age who take smallpox die of it, so do more than half of those under five years.

Early symptoms An unvaccinated child who takes smallpox will become very ill twelve to fourteen days after exposure to the infection. The chief symptoms are headache, pain across the loins, and vomiting. The fever rises rapidly, probably to 105°F , and may be accompanied by convulsions. There is complete distaste for food and great thirst with a furred tongue, persistent sickness and constipation. The characteristic eruption usually develops on the third day, but during the initial period rashes may appear which much resemble those of scarlatina or measles. These rashes are of importance chiefly because they tend to mislead the doctor and friends, but when there is an eruption resembling that of scarlet fever associ-

ated with hæmorrhages into the skin it is of very sinister omen. In such cases the face is swollen, the vomit, stools and urine contain blood. The strength fails rapidly and two or three days sees the end.

**Specific
Eruption**

In an ordinary case of smallpox the temperature suddenly subsides on the third day and all the symptoms abate, greatly to the relief of the patient and the friends. At the same time many small hard spots may be felt and seen, reminding one of small shot imbedded in the skin. These are first noticed in little groups on the face and head—subsequently in regular order they may appear on the neck, arms, body and legs. They are always most numerous on the face and the severity of the subsequent symptoms is in direct relation to their number. After three days, that is the sixth day from the earliest symptoms, these shotty papules are found to contain a little clear fluid, they are then called vesicles. From this time an interesting change occurs.

The centre of the vesicle remains as it was while the surrounding part fills with fluid and swells, standing up round the central part like a distended ring. If the vesicle is pricked a little fluid appears, but the whole ring does not empty itself as do the vesicles of chicken-pox. The character of the fluid alters, it becomes thick and about the eighth day is distinctly matter, the pustule at the same time becoming round and plump. Meanwhile the skin round each vesicle has become red and swollen so that where the spots are numerous, especially on the face, they will run together and cause great disfigurement.

General condition

While this suppurative process is going on the patient is very ill with high fever and often convulsions in the early stage. He also suffers from headache, restlessness, and delirium. As the pustules dry, scab, and drop off the fever subsides and the patient slowly becomes convalescent.

**Modified
small-pox**

In nearly all cases where successful vaccination has been performed the disease runs a different course. The initial symptoms are much the same, but the rash is moderate, or small, in amount, it does not develop into pustules but quickly disappears. There is little or no secondary fever, and about

the time when the unprotected patient is becoming most dangerously ill the protected individual is entering on convalescence.

Confluent small-pox In very severe cases pustules, especially on the face, run together producing terrible disfigurement from the exaggerated swelling and obliteration of the features. The fever and general symptoms are also much more serious, and in the case of children are nearly always fatal.

Hæmorrhagic small-pox In some cases bleeding occurs into the spots and also from the lungs, nose, bowels, etc. These symptoms must always cause great anxiety.

Complications and Sequelæ There are few diseases with so long a list of complications. The poison is violent, and attacks the whole body very vigorously. Among them may be mentioned loss of sight, loss of smell, deafness, chronic ear disease, pneumonia, bronchitis and pleurisy.

Treatment The treatment of small-pox, so far as diet and medicine are concerned, is that of the fevers in general. One chief duty is isolation of the patient and attendants from the beginning to the end of the disease. It is infectious, even during the stage of incubation, and remains infectious until every vestige of scab has disappeared, and so long as there is a discharge from eyes, nose, or ears. The disease may be spread by the dead body, by the attendants, and by everything that has been in contact with them. The patient himself will be only too glad to go to bed, for small-pox is one of the diseases in which the patient at once feels very ill. The room should be large, cool and airy. The windows must be darkened with thin but dark blinds, so as to exclude light while admitting air. The body should be frequently sponged with tepid water, and an antiseptic pomade applied. The pomade will to some extent relieve the itching and may modify the subsequent pitting and consequent disfigurement. To this end many people have tried painting the face with a lotion of nitrate of silver, or with tincture of iodine, also touching each vesicle with solid nitrate of silver and pricking each vesicle to relieve the

tension—none of these plans is uniformly successful and probably pricking had better not be attempted.

Pricking the vesicle does not empty it and is therefore not successful, and it is also dangerous to the person who does it, as he is very likely to prick himself with the infected needle and so to inoculate himself with the poison.

The eyes, nose, mouth, and ears must be constantly syringed with warm boracic lotion. The pustules burst and form thick bulky scabs which injure the organ affected and in the case of the nose and mouth tend to cause mischief in the air passage and lungs.

Vaccinia. It would be supposed that anyone who had nursed a case of small-pox in which the disease ran its natural course would be anxious that all mankind should be protected from so awful a scourge. No doubt when Jenner first discovered the protective influence of vaccinia, or cow pox, people were thankful to profit by the promised exemption. If we now find anti-vaccinationists and “conscientious objectors” we must remember that several causes have evoked them.

First, no doubt, too much was expected, and a general protection was supposed to be universal. The fact that the great majority of vaccinated people did not take small-pox was thought to warrant the inference that all of them were exempt. After a time it was found that some vaccinated people did take small-pox, and that although the disease in them was generally very mild yet some severe cases occurred. This was enough to convince some people that the protection did not exist, or was so partial as to be valueless. Secondly, a really grave danger existed in vaccination as it was practised some years ago. Theoretically the doctor was supposed to select only typically healthy infants as the source of the vaccine lymph. Practically this was difficult, as some diseases have little outward sign, and no doubt some carelessness also existed. Consequently some parents had the anguish of finding their previously healthy child tainted, as they thought from the vaccine, but really through disease germs mixed with the vaccine. The danger need no longer exist. The lymph can be taken direct from the calf which is not liable to the diseases most to be feared, and lastly if properly mixed with glycerine and

preserved with suitable precautions the calf lymph used with a surgically clean instrument and on a surgically clean arm cannot cause any disease except vaccinia.

Subsequent care is also necessary, because there is always a wounded surface, and this like any other wound may be infected by dirty clothes, dirty hands, and dirty contacts of all kinds.

The child to be vaccinated should be sound and in good health. It is better that the vaccination should be done when it is four or five months old; that is when the early difficulties of food have been solved and before the actual process of teething has begun. If the child is about to take a long journey, or if there be an epidemic of small-pox, it may be vaccinated at a still more tender age, even immediately after birth if necessary. The arm should be well washed with hot soap and water then sponged with rectified spirit. The vaccinator's hands should be similarly clean and the lancet sterilised by passing it through the flame of a spirit lamp. Then the skin of the arm is made tense and a fine network of scratches affecting the surface skin is made on the upper and outer part of the arm about an inch or inch and a half below the shoulder. The vaccine lymph should be allowed to drip from its capillary tube on to a previously cleaned and disinfected slip of glass. The lancet is dipped in it and then rubbed on the prepared surface of the arm. The site should be protected from subsequent infection by a piece of aseptic gauze or lint. No change must be made in the child's daily routine, it may be bathed, fed, and exercised as usual. If the vaccination is successful a little shotty hardness will be noticed about the fifth day when calf lymph is used. After two or three days this develops into a vesicle with clear contents, and after a time a ring of redness, appears round it. The redness increases, the area swells and hardens, the vesicle enlarges, becomes flat in the centre, and distended round the circumference. Its contents become turbid, sometimes purulent. About the eleventh and twelfth day the fluid oozes out, a scab forms, the red areola fades and about the end of the third week the scab falls off leaving a red tender surface which gradually becomes white, depressed and marked with little pits just like the scar of a smallpox pustule.

The child seems to suffer little, but may be feverish and refuse his food for a day or two when the process is at its height. A judicious attention to the bowels, and an abundant supply of pure cold water to drink will be all the treatment necessary. The vesicle must be carefully protected from dirt and from injury, otherwise some poison from without will change a harmless and beneficent process into one of danger and anxiety.

Whooping Cough is an infectious disease and almost certainly the result of a micro-organism or germ. Children take it from each other very easily, and it is thought that it may be carried by an attendant on the child, but this is probably from the difficulty of preserving the clothes from contact with the vomit. Whooping Cough ranks high among fatal diseases, but this is probably due to its wide-spread incidence and to the sort of familiar contempt with which it is treated. It is generally tuberculous, and it is sickly children who succumb to it and also those in whom the early bronchitis is neglected.

Incubation The incubation period is uncertain, probably between seven and fourteen days. The child then begins to cough and to have apparently a cold on his chest, or bronchitis. The cough is hard, and soon becomes paroxysmal. When the cough has been present a week, or thereabouts, it becomes more paroxysmal and is accompanied by the characteristic "Whoop." This is a long drawn in and noisy breath at the end of a number of expiratory coughs. After several such paroxysms vomiting usually occurs. The child always seems greatly upset and alarmed by the paroxysms; he leaves his play and runs to his mother, or holds on to a chair, until it ends. During the fit the child's condition is deplorable; the violent convulsive cough, and the failure to aerate the blood, the red congested face, swollen veins, and starting eyes, make up an alarming picture; but if the disease is mild and only some twelve to twenty-four attacks occur in the day there is no reason for alarm. If, however, the attacks are very frequent, accompanied with much vomiting and with catarrh of the stomach and bowels, the disease is more formidable, especially in infants and very young or delicate children.

The third stage of whooping cough is often much prolonged; the whoop disappears, the vomiting stops, and health is gradually restored; but the child is liable to a paroxysmal cough, and even to a return of the whoop with every change of weather, before the cutting of each tooth and with every slight cold or other disturbance.

Complications The complications of whooping cough are its chief dangers; and of all these serious disturbances convulsions and coma are the most formidable. A bad form of bronchitis or broncho-pneumonia is often seen in neglected cases and in previously delicate children. Tuberculosis is a frequent sequel to whooping cough in children who are predisposed. Another cause for anxiety is the presence of rickets which by softening of the bones of the chest adds to the difficulties of respiration and also aggravates the nervous element in the disease.

Treatment The treatment of whooping cough is simple where there are no complications. The child need not be in bed, and in fine weather should not be kept in the house; at the same time he must not be allowed to infect other children and this is readily done. Where there is a large garden, or where there is ready access to the free and open country the arrangements are simple enough, the child can go about in the charge of some responsible person able to take care of him and to prevent contact with any other child. The more fresh air and regular exercise the better, but all rough and exciting games must be forbidden as they bring on the exhausting attacks of cough and vomiting. If the child is feverish and when there is bronchitis, or other serious complication, the little patient must remain in bed and have the treatment necessary for its condition.

Many medicines have been praised as specifics for whooping cough, but practically what answers well in one set of cases seems useless in others. Quinine is one of the best and the least dangerous of remedies. This may be given as the tannate of quinine, which is nearly tasteless, two to five grains in honey or fruit syrup after food three times a day. Another much used remedy is Belladonna. This is given in the form of the tincture in doses of three to eight drops according to the child's age. It can be given with

glycerine and water every four or six hours, but care must be taken to avoid poisoning the child (see page 155). To secure sleep a dose of bromide of potassium, or paregoric, or five to fifteen drops of glyco-heroin in water may be given at bedtime. The administration of narcotics need so much wisdom and experience that it should be left entirely to the doctor where one can be procured. The subject is only mentioned here for the sake of those who live out of reach of medical advice.

Influenza affects children as well as grown up people, and although it generally runs a favourable course it is liable to severe complications and through them is sometimes fatal. One trying feature of influenza is that in the mild cases it can scarcely be distinguished from an ordinary cold, and that in infants there is little to be noticed but a rise of temperature with heaviness and some loss of appetite. It is therefore likely to be mistaken for teething or acute indigestion. So far as the child is concerned the mistake matters little, for warmth, bathing, and dieting are always appropriate treatment, but influenza is rapidly and generally infectious, and the slight cases may be followed by severe cases among the members of the household or school. At the same time if every ordinary cold, and every attack of indigestion, needs isolation the result will much resemble solitary confinement for life.

Infants suffer chiefly from the simple feverish form, and after a few days of raised temperature and other slight symptoms of malaise, the little one is well again.

In older children the disease is more like influenza as seen in adults, but the temperature is apt to be higher while the rheumatoid and neuralgic pains are less marked. There is sneezing, running at the eyes and nose, cough and fever; at this stage the attack resembles measles, but the characteristic rash does not appear and about the time that it should appear the fever drops, and if not exposed to cold or other misfortune, the child is quickly well as a rule.

Complications Sometimes bronchitis or pneumonia come on and import their own anxieties and dangers. In other cases there is much earache but very seldom abscess in the ear or brain. In a certain proportion of cases the diagnosis from scarlet fever is at first

difficult. There is a sudden rise of temperature and well marked illness with headache, tonsillitis, and a diffuse red rash. However the presence of other cases of influenza, the usually rapid convalescence, and above all the absence of "peeling," suffice to distinguish the diseases. It is to be remembered that relapses are common in influenza and that one attack does not protect from another.

Treatment Isolation, a hot bath, rest in a warm bed, a mild purgative, and very simple diet, make up the appropriate treatment in ordinary cases. Bronchitis pneumonia, and other complications must be met as they arise. Ammoniated tincture of quinine in doses of five to fifteen drops may be given after food three or four times in twenty-four hours, or the tannate of quinine in syrup or honey, in doses of two to five grains. If there is much vomiting small doses of fluid magnesia with a few drops of lemon juice may be useful; and the diet should be limited to milk by the teaspoonful, or very small quantities of Brand's chicken jelly. High fever should be treated by repeated spongings, packs or baths, sometimes by an ice cap or Leiter's tubes to the head.

Tonsillitis is not uncommon in children. It occurs as a symptom of other diseases, such as scarlatina, and sometimes as a disease in itself. It is very important that children should be accustomed to inspection of the throat and that parents should learn both the healthy appearance of the throat and how to examine it quickly without distressing the child. Much loss of life and still more illness and anxiety would be avoided if parents were trained to make this little examination of their children. It would lead in the one hand to an easy mind with regard to them, or on the other hand to immediate isolation and suitable management until the doctor could arrive. Inflammation of the tonsils, as shown by swelling and redness, is an early and therefore a valuable symptom in scarlatina, diphtheria, and influenza. Inflammation of the tonsils also occurs in a common cold, as a result of drain poison, in rheumatic children, and sometimes in acute dyspepsia. In addition to these cases in which it is a symptom, acute tonsillitis occurs as a disease in itself and may go on in the formation of an abscess (Quinsy).

Tonsillitis may exist as a chronic condition which interferes with the general health and probably renders the child more liable to take the various infectious fevers. Bacilli and micro organisms of all kinds seem to flourish best on unhealthy surfaces, and no doubt that is why people often say that a child began to be ill with quinsy, or with sore throat, which afterwards "turned to diphtheria." Now the minute organisms which cause the various fevers are tiny plants, and the germ of quinsy can no more turn into diphtheria than a cabbage can turn into nightshade, but no doubt the surface which has been injured in any way affords a better soil for the cultivation of these poisonous vegetables.

Acute Tonsillitis. Acute tonsillitis is characterised by a sharp and sudden rise of temperature and pulse. If old enough, the child will generally complain of sore throat and on inspection the tonsils will be seen to be red and swollen, but little children often make no complaint or refer the pain to the head, chest, or abdomen.

If the case be one of quinsy, which is commonest in young people from 15 to 25 years of age, the pain often extends from the throat to the ear and down the side of the neck, the glands at the angle of the jaw are swollen and painful, and the child feels and looks ill. The tonsils continue to swell and are very red—sometimes they swell until they meet in the middle of the throat. After four or five days the abscess in the tonsil bursts and immediate relief ensues.

Treatment Hot fomentations or poultices externally. Ice to suck or sips of hot water—fluid diet—a full dose of aperient medicine and of course rest in bed. The natural relief may be anticipated by the doctor making a small cut into the abscess.

Follicular Tonsillitis. In other cases there is not one abscess occupying the centre of the tonsil, but supuration occurs in the natural depressions, or follicles, of the organ. The rise of temperature and other symptoms are like quinsy, but the surface of the tonsil is seen to be sprinkled with yellowish white dots—these increase in size and then discharge leaving behind them small cavities.

Any acute affection of the tonsil in childhood, and indeed

in adults also, must be watched with care—the apparent severity of the disease is no measure of its real importance, and a mild tonsillitis with little fever and little or no discomfort may be the early stage of diphtheria, or scarlatina.

Treatment All cases of sore throat must be isolated at once, and as much care must be taken as if it were certain that a grave illness was commencing.

Fomentations and poultices may be applied externally—the steam kettle may be used if the wind is in the east—a dose of aperient medicine should be given, and a little chlorate of potash combined with quinine. Plenty of drink, but not too much at one time, should be allowed. The diet must be nourishing but fluid, chiefly milk and meat essence—later on milk pudding, junket, and eggs beaten up with milk.

By chronic tonsillitis people usually mean chronic enlargement of the tonsil. This is often associated with adenoids and has been considered at page 74.

Mumps. Mumps, or inflammation of the parotid gland, is a very infectious disease, and tends to spread rapidly through a household or school. It varies much in severity, sometimes being little more than a swelling about the front of the ear and angle of the jaw with some stiffness and discomfort. In severe cases

Symptoms there is a rise of temperature to 102° or even 105° with headache and shivering. Even then the child is seldom very ill although unusual cases of serious illness from mumps have been recorded. In boys the testes sometimes become inflamed and add greatly to the importance of the attack. In girls about 14 or 16 the ovaries may suffer in the same way.

Treatment Isolation for three or four weeks for the sake of other people. The pain may be allayed by fomentations, and by belladonna and glycerine. The diet should be fluid and nourishing, the jaws are generally almost fixed by the swelling and until it subsides, mastication is impossible or very painful. A few doses of aperient medicine will be useful. Except in cases where the testes or the ovaries are affected there is no need to keep the patient in bed.

Malarial Fever. Malarial fever is not common in the British Isles but is very frequent in India and many other countries. Its incidence depends less on the range of temperature than on the existence of marshes and stagnant pools which are the natural breeding grounds of the malaria-bearing mosquito.

The facts about the connection of certain kinds of mosquito with malaria which have been ascertained by Ross, Manson, and other observers illustrate the truth that a little knowledge is a dangerous thing. Our ancestors connected malaria with stagnant water and called it paludal or marsh fever, but they considered the infection to be due to a miasma arising from the marsh during the night and failed to connect the illness with the bites of the nocturnal insects. Even in India although the mosquito net around the bed was known to diminish the danger it was thought to be due to its action as a sort of filter, not to its exclusion of mosquitoes.

Children suffer much from malaria. They most frequently have the type in which the paroxysm occurs daily but they are also liable to the other forms. An attack of malarial fever consists of three stages. In the first there is shivering with headache, sense of illness, and often vomiting—in the child there is frequently a fit of convulsions. In the second stage there is a sharp rise of pulse and temperature with a flushed face, headache, thirst, this is followed by the third stage in which there is copious sweating with a return of pulse and temperature to the normal. In children the three stages may not be well marked and they suffer more than adults from the nervous symptoms, especially from convulsions.

Like adults, children suffer much from the after effects of malaria, for instance anæmia, enlarged spleen, and general ill health.

Treatment

During the cold stage put the patient to bed with plenty of blankets and hot bottles. Give him hot drinks such as hot lemonade, and hot milk and water.

In the hot stage remove the excess of blankets and give cooling drinks. Apply evaporating lotions or ice bags to the head if the headache is severe.

After the sweating stage remove the wet clothes, dry and rub the body with dry cloths, administer nourishing but easily digested food. Also give quinine, preferably the tannate of quinine, in appropriate doses from one grain up to ten for every year of the child's life. Repeat the dose three times in the first twenty-four hours and twice in the second unless it causes sickness or headache. After this five to ten grains a day in divided doses combined with arsenic (one to five drops of Fowler's Solution according to age).

Prevention is better than cure, and much may be done to avoid malarial fever by draining swamps, filling up of ponds, and by the use of mosquito nets.

The method now employed is to drain swamps and pools, to empty fountains and cisterns and then to pour in a thin layer of kerosine oil—after some hours, water may be readmitted to the fountain. It is very important that native children should be excluded from European quarters, for they suffer much from malaria, and it is readily transmitted to Europeans by the agency of the mosquitoes.

CHAPTER XII

DISEASES OF THE SKIN

ECZEMA.	PSORIASIS.	SWEAT RASHES.	ERYTHEMATA
SEBORRHOEA.	SCABIES.	NETTLE RASH.	RINGWORM.

DISEASES and unhealthy conditions of the skin are common in childhood. The child's skin is very tender and easily injured by outside influences; it also sympathises readily with internal irritations such as dyspepsia, dentition and pneumonia.

Eczema. Among the commonest diseases of the skin is eczema and this is specially the case in childhood.

Causes It may be caused by local irritants such as wet and soiled diapers, parasites, scorching by the sun, fire, or east-wind, failure to keep the folds of the groin, buttocks, neck and limbs clean and dry.

Eczema is also caused by dyspepsia, diarrhoea and other constitutional diseases.

The face and head are the most usual sites of eczema in children, but it is often found on the folds of the skin where the maintenance of dryness and cleanliness are difficult in infants.

Symptoms Patches of red and tender skin on which appear little vesicles full of fluid. After a time the vesicles burst, or are broken by scratching, and then scabs and crusts form. Sometimes the red surface oozes moisture without any vesicles forming. If eczema becomes chronic the affected skin gradually hardens, thickens, and toughens, the oozing is less but crusts form and give rise to irritation and scratching.

Sometimes the inflammation is very acute, then the

redness, irritation and swelling are great and the child's condition is very miserable.

Not infrequently the scratching and consequent infection from the finger nails leads to suppuration. There may be crowds of small pustules looking like boils, or one or more abscesses may form and sometimes severe fever or other illness may develop.

The great tendency of infants and children to eczema should lead mothers and nurses to extreme care in keeping the whole body clean and dry. Napkins must never be left on when wet or soiled, all folds of skin must be well dried with a soft fine towel and then dusted with Emol Keleet, prepared Fuller's Earth, or Vinolia powder. Soap should not be used when the child has eczema but the parts should be cleansed with oatmeal water, or gruel.

Care should also be taken to protect sore surfaces, especially vaccination pocks, from the friction of the clothes and from rubbing and scratching.

The diet must be carefully supervised, and the nursing mother should avoid any article of food which is known to disagree with her or her nursling. Such things as malt liquor, wines, spirits, coffee, salted meats and rich stews are likely to cause indigestion and so predispose to eczema.

If the patient be an infant brought up by hand the quality and quantity of the food must be adapted to his digestion, and older children must avoid excess of fat, starch, and sugar.

Medicines are chiefly useful in correcting indigestion, constipation and diarrhoea. Sometimes, in severe cases, a little sedative may be desirable, especially in the acute inflammatory varieties of eczema. In delicate children a very nourishing but unstimulating diet is necessary, and often it is useful to give Cod Liver Oil alone or in addition to Iron and Arsenic.*

Local treatment Prevent scratching, avoid heat, keep the parts affected clean and dry. If scales exist remove them by means of rags soaked in oil applied all night, or by a boiled bread and milk poultice well smeared with oil. This treatment will soften and loosen the scabs

* Ironol, 30 drops; Fowler's Solution, 3 drops; water, a teaspoonful. After food 3 times a day.

and leave a relatively clean surface which can be dressed with resinol ointment, vaseline cream, vaseline snow or a very dilute mercurial ointment (see appendix Formula) one essential part of the treatment of eczema is to exclude the air. The ointment must be spread on lint, or clean rag which has been boiled and ironed, and kept in place by careful bandaging.

Baths are also serviceable in removing the scabs but must not be used during the healing process unless the affected part is protected from the water by means of grease.

Sometimes no ointment seems to suit the skin—then dusting powders such as Emol Keleet, Kaolin or Fuller's earth must be tried. In some cases a lotion will succeed where all else fails. Lead lotion a teaspoonful to an ounce, (half a wine glassful of warm water) may suit, or very dilute carbolic lotion 1 in 80 or calamine and lead lotion.

When the eczema is on the scalp the hair must be cut quite short, or even shaved, to permit of cleansing and the efficient application of remedies.

Seborrhoea (or excessive dandriff) is most frequently seen in neglected children on whose skin, especially over the anterior fontanelle, there is a mixture of dried soap and secretion from the skin. It can be removed by dipping a piece of lint or flannel into warm oil or vaseline and gently rubbing the affected skin. After this, vaseline or Vinolia cream, may be rubbed in, and care must be taken to thoroughly rinse the child's head to wash off the soap. Indeed, soap should not be used in washing the child's head.

Psoriasis may be mistaken for eczema but seldom resembles it closely. It usually appears over the knees and elbows, and on the body. It does not weep and usually consists of rounded spots more or less covered with scales. The scales must be removed with warm baths and oil imunction, and after that ointment may be applied. If crysarobin is used it is well to remember that it stains both skin and linen.

Scabies or itch is due to the irritation of a tiny insect which makes little tunnels in the skin at the end of which she lays her eggs. It is always the result of infection. The cure is simple but not pleasant. The child must be

stripped and all his clothes well boiled to destroy any insects that may cling to them. He must then have a hot soap and water bath, the skin must be carefully inspected and the burrows of the insect opened up if possible. In any case the skin must be well rubbed, not merely anointed, with sulphur ointment and a clean suit put on. This must be done regularly every day for about five days to destroy the insects which hatch from the eggs in the burrows. The child's bed should be well sprinkled with sulphur.

Very frequently itch is complicated with pustular eczema, the result of infection from scratching. The treatment which cures the itch does not cure the eczema which may long persist unless well and carefully treated (see Eczema p. 132).

Sweat Rashes are generally due to blocked, and irritated, sweat glands. They may be seen in illnesses in which there is much perspiration and in hot climates. The irritation may be lessened by the application of a soothing lotion or dusting powder, such as Emol Releet.

Urticaria (or nettlerash) is common in children, and in babies may be very troublesome from the restlessness and want of sleep caused by the irritation. It is caused by worms and by unsuitable food, especially fish, shell fish, strawberries, and tinned provisions. Probably in all these cases there is slight poisoning, and there is frequently vomiting and diarrhoea. Sometimes urticaria follows the use of an enema especially if it contain soap.

Erythemata or red rashes. These may arise from many causes such as undigested food, constipation, enemata, rheumatism, etc. They are simply red, dotted, rashes which may almost cover the body, or may be present in patches here and there.

They are sometimes accompanied by irritation, by fever, and by malaise. If the cause can be ascertained it must be treated ; otherwise rest in bed, very simple diet and a laxative are the obvious treatment.

Ringworm is a very bad name for a common and well known skin disease. It has no connection with the animal kingdom, being due to the growth of minute vegetable organisms which, like mushrooms, tend to grow in rings.

Ringworm is of course always due to infection. It may affect the scalp only, or also the body, and frequently appears in both at the same time.

Ringworm first appears as a round red spot. It spreads at the margin and dies away at the centre so forming a ring.

Treatment When Ringworm (*tinea circinata*) appears on the body the treatment is simple and is generally effectual. The part should be thoroughly washed with soft soap and water, and after it has been dried a parasiticide ointment must be well rubbed in twice a day for a week or ten days. Such an ointment as the oleate of mercury, five to ten per cent. or white precipitate ointment, or quinine ointment one drachm to an ounce of vaseline is very effectual.

When the ringworm appears on the scalp it is best to shave the head. This seems a hard saying but the advice if followed will save much time and many disappointments. The disease attacks the roots of the hairs, and unless the remedies can be really rubbed well into the scalp the trouble will reappear constantly and the necessary isolation of the patient will continue for months.

The head should be shaved, washed with soft soap and hot water, soaked with methylated spirit and then dressed with an appropriate ointment, e.g., white precipitate ointment.

The head may have to be shaved more than once.

Pediculosis. This troublesome condition, in which the head gives shelter and food to an army of lice, may attack anyone.

A louse gains access to the head in a public conveyance or from necessary contact with people already infected. The one louse multiplies rapidly and the irritation caused may be great. Hence involuntary scratching. In many cases the back of the head is rendered sore by furious scratching and then one part is infected from another by means of the finger nails. The glands at the back of the neck swell and become painful.

Treatment The hair must be cut absolutely short because the nits or eggs are glued on to the hairs.

Then the scalp must be thoroughly washed with soft soap and hot water, next it is dressed with methylated

spiriti and finally a mercurial ointment is applied. The white precipitate or 10 % oleate of mercury will do very well. For infants 5% will suffice.

Acne is seldom seen in little children but is very common from the age of fourteen to thirty. It consists of an eruption of small, hard, red pimples or raised spots on the face, shoulders, chest and back. After a time the spots slowly suppurate, break, and finally die away, leaving a depressed scar which is sometimes permanent. With these spots is associated a blocking of the sweat-ducts; the outer ends of the plugs become black with dirt and have given rise to the repulsive idea that they are grubs or maggots with blackheads!!! These "blackheads" as they are sometimes called, can easily be squeezed out by pressure with the open end of a watch key. The red acne spots must be treated patiently in the following way. At bed time steam the face or other part affected with boiling water, then scrub with hot water and Castille soap, rubbing the latter in with an Egyptian Loofah. Having washed off the soap, rub into each spot a minute portion of white precipitate ointment—or of yellow iodide of mercury ointment. The ointment should be washed off next morning with thin gruel or oatmeal water. This treatment tears open the spots and for a few days makes the part look red and angry but the ointment thus obtains access to the spot and quickly disinfects and so heals it. Repeat this treatment twice a week. If the acne is not cured by this treatment a doctor should be consulted.

Boils are very painful and when large or present in numbers often make the patient really ill.

They are really inflammations about the roots of hairs or the associated glands—due to the invasion of micro-organisms. Hence their tendency to multiply. Each boil suppurates and breaks, the pus which is discharged contains the infecting organisms which readily gain access to neighbouring follicles and glands.

A tiny portion of tissue in the centre of the boil dies and is discharged with the pus. This is known as the "core."

Treatment As soon as a boil appears touch its centre with a minute drop of water and into that rub a pointed stick of lunar caustic, or touch the boil with

carbolic lotion, 1 part of the acid to 4 of water. The part touched with the silver caustic turns black, but this is quite right, and probably the boil will shrivel and die away. If the boil is not seen until it has suppurated it must be opened with a small sharp lancet or knife. A mother will probably feel more at home with a good sized needle (large flat surgical needles are miniature knives) disinfect the instrument by laying it in methyated spirit for five minutes before use.

Give saline purgatives and mild preparations of iron.* A stye is a boil on the eyelid—but it cannot be touched with caustic or carbolic acid. It may be carefully pricked and then frequently bathed with boracic acid lotion.

Poultices should not be used for boils. They are soothing, but help to infect surrounding parts.

Crops of boils nearly always indicate that the patient's health is suffering. They are very common in India during the hot season and the rains. Generally they show that the child needs a change of air and a better diet, but they sometimes occur when the diet is excessive in quantity, or of such a quality as to cause indigestion. Sometimes a crop of boils shows that the bowels are constipated and that the patient is suffering from a state of chronic poisoning due to the retention of effete materials.

Shingles (Herpes) is an eruption on the skin of small vesicles along the course of a superficial nerve. Most commonly they appear on the body running in the direction of the ribs, or round the waist, on one side only. Very rarely the eruption is found on both sides at once. It may also appear on the thighs, shoulders, face and other parts. Shingles sometimes shows that the child is suffering from errors of diet and then has no serious significance, but a similar eruption is seen in some cases of caries of the spine (see Tuberculosis, p. 66.)

Treatment. Correct the diet, give a mild aperient, and apply zinc oxide ointment or Hazeline, or Vinolia cream to the patch of vesicles. They will probably disappear in a few days and fortunately children do not suffer as do older people from subsequent neuralgia.

* Saccharated carbonate of iron, half a teaspoonful between two thin slices of bread and butter; or ammonio-citrate of iron, as much as will lie on a shilling, in half a wineglassful of water.

WARTS, MOLES, CORNS, CHILBLAINS

WARTS are small hard growths on the skin chiefly seen on the hands. They at first appear as small, smooth, hard lumps under the cuticle (superficial skin). After a time they grow through the cuticle, and if looked at through a lens are seen to have an uneven surface something like that of a cauliflower. They may appear singly or in great numbers.

Treatment Draw a ring of salad oil round the wart with a small camel's hair pencil. Touch the centre of the wart with strong nitric acid applied by means of a wooden lucifer match, or any tiny stick sharpened to a point. Put the nitric acid away out of reach for it is a powerful corrosive poison. Another treatment is by rubbing in red mercurial ointment. The treatment must be regular and persistent.

Moles are sometimes foolishly called "mother's marks" from a mistaken idea that they are caused by frights or longings during pregnancy. They may be many, they may chiefly consist of bunches of vessels, or they may appear as stellate collections of fine red lines in the skin. They often disappear spontaneously but should always be shown to a doctor, for in some cases they grow rapidly and become difficult to deal with.

Small moles growing from a stalk may be strangled by tying a piece of waxed thread tightly round them. Many of them may be destroyed like warts with nitric acid, but it is far better, whenever possible, to leave such risky work to the doctor.

Corns are only too frequent in children, and are of two varieties—the hard corn found on the outside of the toes, and especially over the joints—the soft corn found between the toes.

Both kinds of corn may arise from undue or unequal pressure of boots and shoes but the soft corn is greatly aggravated by moisture. The moisture is sometimes due to failure of the nurse to thoroughly dry and powder the toes, sometimes it is due to the failure of ventilation in foot gear.

Children whose feet perspire much should always wear fine woollen socks or stockings and their foot-gear should be sandals or canvas shoes, not leather boots and shoes.

All children should have their feet well washed, dried and powdered twice a day, and those who suffer from excessive perspiration should have the feet immersed in a warm solution of alum (a teaspoonful to the pint) for five minutes night and morning. Their feet should be powdered with Emol Keleet, Cimolite powder, or powdered boracic acid two parts, alum one part and violet powder or starch, one part. A corn may be painted with a solution of salicylic collodion known as "corn paint." If it be cut, the pen-knife employed should be very sharp and the corn should be patiently removed in very small layers. After cutting away all that can be cut without causing bleeding, the base of the corn may be painted with the "corn paint."

Chilblains are common in children with feeble circulation; especially if they are exposed to damp and chill, and are at the same time badly fed. Chilblains are roundish red swellings, extremely irritable and sometimes painful. They are chiefly seen on the fingers and toes but may appear on the sides of the foot and on the heel. The presence of chilblains should always suggest careful enquiry into the child's general health, his food, his clothes and his nursery.

The foot-gear should be looked into; the stockings or socks must be of wool, the boots or shoes must fit well and be lined with Jaeger cloth, or some other woollen material.

Not unfrequently it will be found that a current of cold air flows from under an ill fitting door to the fireplace. This can be remedied by a "draught excluder." Children need plenty of fresh pure air, but not draughts.

Chilblains can be treated locally by thorough rubbing, and exercises for the feet twice or thrice a day. Brandy and salt—or Iodine and Aconite liniment may be painted on once or twice a day. If a chilblain ulcerates, (or in popular parlance breaks) these applications must not be used but hazeline cream or vinolia cream may be applied on aseptic gauze or on lint. A broken chilblain that has been rubbed by the stocking should have a fomentation for one night before the treatment by ointment is commenced. The ointment must be applied in gauze, lint, or clean rag, it must be covered with oiled silk and kept carefully in place.

CHAPTER XIII

EARACHE	ULCER OF EYE
DISCHARGE FROM EAR	SQUINTING
ACUTE INFLAMMATION OF	STAMMERING
EYES	LOSS OF VOICE
CHRONIC ,, ,,	

Earache and Discharge from the Ear are common and important troubles in childhood—but may occur at any age. They are commonest among tuberculous and other delicate children, but may occur after severe illnesses and accidents in all alike. Injury to the ear which may be very serious and eventually fatal is sometimes caused by a box on the ear.

An infant suffering from earache screams almost continuously until he sleeps from exhaustion and when he wakes up he screams again; he will not lie on the side affected, and frequently puts his hand to the painful side of the head.

On examination it may be seen that the ear, or the parts near it, are red and swollen, that the ear stands out stiffly from the head and is very tender to touch, discharge may be seen in the ear and sometimes the discharge is offensive. The mouth and throat should be looked at carefully, for pain in the ear often accompanies toothache, and sore throat.

If possible a child suffering from earache, or from any discharge from the ear, should be seen at once by the doctor. There may seem so little wrong, no pain, no fever, no swelling and yet the discharge may mean deep seated disease of a very dangerous character.

Until the doctor comes earache may be treated with a warm poultice, or the application of a flannel bag filled with hot bran or hot salt. Also a drop of laudanum with three of salad oil or glycerine may be poured into the ear from a warm teaspoon and then a little cotton wool may be placed in the opening of the ear. This wool must not be forgotten nor pushed into the ear.

A mild dose of aperiens helps to lessen nearly all pains, and may always be given except when the pain is in the abdomen when certain precautions are necessary.

Foreign bodies in the eyes; Inflammation of the eyes (sore-eyes): by this is meant inflammation of the delicate mucous membrane which lines the eyelids and covers the eyeball. In its most acute and terrible form this is seldom seen in England except in new born babies, whose eyes were not properly cleansed at birth. It is common in India and Egypt and some other tropical and sub-tropical countries. The commonest cause is infection from another sufferer either directly or through the medium of flies. Dirt, heat, and poor health aggravate the condition.

The eyes discharge abundantly, the discharge is generally pus. In spite of this they swell rapidly and enormously. There is a feeling of grit or sand in the eyes and at first relief is sought, but not found, in rubbing them. The pain and suffering are great and the child soon becomes restless and ill.

Treatment must be intelligent and prompt for this disease if neglected often leads to permanent damage to the eyes and sometimes to blindness. In so grave a matter no one should take the responsibility of treatment except a doctor if there be one within reach.

The treatment is painful but must be thorough. Roll the child in a sheet and have his head well steadied by an assistant, then one person gently opens the eyes and another first syringes them with warm Boracic lotion (5 grains to the pint) and then drops in whatever the doctor may order. Should no doctor be within reach (as may happen to missionaries or planters up country) drops of nitrate of silver lotion may be used. Nitrate of silver 10 gr., distilled water one ounce. As this lotion mixes with

the fluid in the eyes it turns milky—this is all right. It should be washed away with some more Boracic lotion.

The syringing should be repeated every two or three hours according to the violence of the attack and the drops must be used twice a day.

It must be remembered that this disease is extremely infectious. The patient and his nurse must be isolated and great care taken to disinfect by boiling all sheets, towels, cups, and other utensils. Absorbent wool should be used instead of sponges. It must be burnt immediately after use.

CHRONIC OPHTHALMIA—GRANULAR LIDS

Sometimes without there being any of these urgent symptoms the child frequently complains of something in his eye. A careful search shows no Foreign Body but on the inner side of the eyelids are tiny swellings rather like minute sago grains. This condition needs immediate attention. The child's general health may probably be at fault, but the disease is usually due to infection through towels, handkerchiefs, etc.

The local treatment is to drop into the eyes every night a lotion of Sulphate of Zinc two or three grains to distilled water one ounce.

If this does not quickly cure the eyes a doctor must be consulted.

Ulcer on the cornea (ulcer in the "sight.") Sometimes a child is seen to avoid the light, to blink painfully and even to keep the eye firmly closed.

Careful examination shows a tiny spot to which five or six little vessels converge. This is an ulcer and usually occurs in sickly children and in those who have been or are very ill.

The doctor's attention should be called to this at once. If there is any delay in getting a doctor (delay of more than a day) drop into the eye one drop of Solution of Atropine two grains to the ounce. Remember Atropine is a very powerful poison.

Squinting may occur as a symptom of disease, as in meningitis or convulsions, more commonly it shows that

the child requires spectacles. No time should be lost in consulting a doctor, if possible an eye specialist.

Stammering. If a child shows any inclination to stammer he must not be allowed to talk quickly and must be made to carefully pronounce every syllable. It is useful to make a whole group of children repeat aloud together a piece of poetry, slowly and emphatically giving due value to each syllable. Singing is also very useful if well taught. It greatly assists the speech of stammerers and also cures the hysterical variety of "loss of voice."

CHAPTER XIV

ACCIDENTS IN CHILDHOOD

BURNS AND SCALDS
FRACTURES
DISLOCATIONS
SPRAINS
CUTS AND BRUISES

FOREIGN BODIES IN THROAT,
EYE, EAR, NOSE
POISONS
DROWNING

The accidents of children are frequent and generally call for domestic treatment only. In the graver cases it is well to know what to do until the doctor comes.

No attempt will be made to deal with all possible accidents.

Burns and Scalds frequently occur in childhood and are of even greater importance then than in later years.

This is chiefly because children suffer more than adults from the immediate effect of "shock." They are also very intolerant of pain and have been known to die from the combined effects of pain and fright.

On the other hand children do not anticipate evil and do not brood over it. They have no fear of the future and are not depressed, as are grown men, by the thought of what will happen to their families should they die or remain invalids. In consequence of this simple bearing of the ill of the moment children recover from shock and depression much more quickly than do their seniors.

Children are very liable to be burned and scalded. They often wear thin, easily inflammable clothes—flannelette being a specially dangerous material—they are often plunged into baths the temperature of which is too high, they sometimes

attempt to drink out of tea-kettles or teapots and thus scald their mouths and throats.

If a child's clothes take fire do not waste time in trying to put out the flames but throw the child down on the ground and wrap it quickly in the most easily accessible woollen wrap, coat, rug, thick petticoat or skirt. It is useless to throw the wrap over the child it must be firmly wrapped round it; the object being to exclude air and so to stifle the flames. If a doctor can be had do not remove the wrap until he comes. Put the child to bed between blankets, surround it with hot water bottles, and give it small doses of wine and water—half and half as hot as it can comfortably be swallowed. The immediate danger from burns and scalds is that of shock, and shock is best treated by absolute quiet, warmth, and stimulants. In the case of scalds the first treatment is to wrap the scalded part in lint or clean rag thickly spread with aseptic grease, cold cream, vinolia cream, vaseline, lanoline, hazeline cream, or oil. The best of all is carron oil, of which it is well to keep a supply in every household. It is easily made (see appendix).

Subsequently blisters must be pricked to let out the fluid, but the skin must be as little disturbed as possible. It will, of course, peel off after a time, but meanwhile it protects the raw surface from the irritation of the air.

In some cases of severe burn or scald great relief is obtained by keeping the child or the burnt part all the time in a warm bath, but then muscular rest must be secured by slings or a judicious arrangement by india-rubber cushions not easily managed except in hospitals.

If no doctor can be had it is well to let the child recover from shock and when his colour and warmth of skin have returned to gently remove the wrap and his clothes. If any part of the coverings stick to the burnt part it must not be pulled off but should be allowed to loosen gradually. They may be removed by soaking in Condy lotion or weak carbolic acid lotion. The burnt parts, so far as they are accessible, should be treated as suggested in the case of scalds. Burns and scalds of the mouth and throat are very dangerous because the breathing is often interfered with. Not infrequently tracheotomy may be necessary. In

lesser degrees a warm moist atmosphere, perfect rest, silence, and very nourishing liquid food are indicated (for feeding by the bowel, see page 32). Syringing into the dressings with weak Condy lotion or with carbolic lotion 1 to 60 or 1 to 80 helps to keep the dressings aseptic, but the risk of carbolic poisoning (see page 158) must be remembered.

In severe cases of burn many dangerous complications may arise—among these are erysipelas, meningitis, and broncho pneumonia. When the burn occurs over the stomach there is a fear lest internal ulceration may supervene.

It must be remembered that owing to the contraction of the scars very severe deformities may be caused by burns and scalds. These will be most obvious and distressing when the face and neck are involved. Sometimes these deformities may be lessened by operation but this is seldom to be recommended until growth has stopped.

Fractures. Fractures are fairly common among children, especially in the rickety in whom the bones are unusually brittle, and also in the case of some slenderly built, though apparently healthy, children.

It might be supposed that it is always easy to detect a fracture. This is not the case even in adults, but in children the existence of a fracture is often difficult, or impossible, to diagnose. Their bones often break in a peculiar manner snapping straight across and then no pointed fragment projects as it does in an ordinary oblique fracture. Another kind of fracture which occurs in children is the incomplete or “green-stick” fracture. The bone is not absolutely broken in two but individual parts are broken and others bent just as the fibres in a young growing limb of a tree may be bent and injured without actually being broken off. In all cases of fall or other accident and when a child cries constantly without obvious cause it must be entirely undressed and every part of the body systematically examined for such injuries as fractures, dislocations, sprains, bruises, and cuts or abrasions.

In cases of complete fracture of one of the bones of the limbs we shall generally find

1. The limb is deformed.
2. The limb is useless.
3. The limb is the seat of pain.
4. Some part of it is swollen, discoloured and very tender. When the bone is snapped across there may be little deformity. When one bone of two is broken, as in the leg and the fore arm, some movement may still be possible. When there is a green stick fracture the deformity will appear as a bending and not as an angular alteration of shape.

Sometimes an injury to the surface is in direct communication with the break in the bone. This is known as a "compound fracture," and is more dangerous and more difficult to treat than is an ordinary fracture.

Fractures in children generally do well and require very simple treatment but sometimes the broken bone will not reunite, its nutrition fails and the limb remains permanently shorter and smaller than its fellow—and is more or less useless. This is more likely to be the case when the fracture was near the knee or the shoulder.

Parents and guardians ought to know this, for the failure to unite is due to natural causes and is not usually the fault of the medical attendant.

The collar bone may be broken at birth, especially when the baby is not born head first. It is often broken by a fall when the weight is received on the out-stretched hand. The signs and symptoms are not very definite, but if there has been an accident such as a fall or a kick, and a tender swelling appears on the collar bone, it is wise to conclude that there is a fracture and to treat it accordingly.

In all cases of injury a doctor should be sent for as no one else can determine the nature and extent of the injury. If no doctor can be had, the limb should be gently pulled and pressed into the best position and shape attainable, and then well padded splints should be applied. These splints can be made of poroplastic felt softened in hot water, cut to shape, and moulded on the limb. They should be lined with chamois leather, lint or some soft material, and fastened on with straps or bandages. In case of emergency, splints may be fashioned out of wood, tin, folded newspaper, cardboard, umbrellas,

walking sticks, etcetera. Any persistent complaint of pain by the child should be met by removal of the splint and careful readjustment. Neglect to do this may lead to chafing or soreness of the tender skin.

If the fracture be of the collar bone or of the arm near the shoulder, it is well to put a soft pad in the arm pit, and then bandage the arm to the body.

If the thigh is broken and the patient is an infant, the most convenient treatment is to lay it on its back on a hard mattress, to raise both legs up to a position at a right angle with the body, and to fasten the feet so that the soles look up to the ceiling. The weight of the child's body keeps the bone in place, and the necessary washing and cleanliness is easy to carry out.

Dislocations are very rare in little children. The commonest is of the radius (one of the bones of the forearm) at the elbow.

It may occur when a child is pulled up by its hand, or when it swings itself suddenly down while holding the hand of an adult. This dislocation is very difficult to treat and is likely to lead to permanent weakening of the joint. The domestic treatment is obviously prevention. No one should drag a child by its hand, and a child ought not to be allowed to swing its weight by dragging on a grown person.

Sprains most frequently occur about the ankle and must always be carefully treated lest permanent lameness follow. In delicate children the injury to the joint may be followed by the invasion of tubercle with all its dangerous consequences.

Sprains are usually caused by a sudden twisting of the foot which over-stretches and injures its ligaments. They may occur when a child slips off the kerbstone, when he falls with his foot doubled under him, and in running down a steep path if a stone suddenly turns under his foot.

The foot and ankle should be carefully packed with cotton wool, especially over the bones of the ankle. It must then be "strapped" with soap plaister or india rubber plaister—each strip being about an inch and a half wide—Great attention must be paid to the position of the foot. It must be held at a right angle to the leg. The application

of equable pressure is very important, it greatly diminishes the pain and the swelling, lessens the time of inaction, and usually prevents subsequent lameness.

If there is much pain and swelling hot fomentations may be applied over the strapping. When the swelling subsides and the plaster becomes loose it should be slit up and removed. The foot and ankle must be well washed, rubbed with spirit, and then restrapped. The foot and ankle must be strapped, or an elastic sock should be worn, for some months if the sprains were severe.

Cuts and bruises are very common in childhood, but are generally slight and owe their importance to the difficulty of making, and keeping, them clean. All injuries to the skin should be carefully washed and freed from dirt. After this they must be bathed with a weak Condy lotion or with 1 in 60 carbolic lotion, which stings for the moment and then lessens the pain and soreness. If the cut be moderate in extent and not accompanied by much bleeding, a wet piece of aseptic gauze or clean boiled rag may be wound round the injured part, it should be stitched so as to keep its place and then covered entirely with a piece of oiled silk or any waterproof material. If the cut cannot be treated in this way, (for instance when it is on the face, neck, or head) a single layer of gauze may be applied, and some flexible collodion should be brushed over it. This stings sharply for the moment but makes a good and lasting protection for the cut.

Deep cuts on the face or head, and any that are accompanied by much bleeding, ought to be stitched. If a doctor can be had this is his business, but if no doctor be available it is very easy to stitch the soft tissues. A needle, no. 7 threaded with no. 40 or 60 machine thread should be boiled while the cut is being cleaned. The stitches should be about a third of an inch apart to allow of the escape of any discharge. The wound should be dressed with gauze and collodion or with gauze wrung out of boiled water and kept in place by a bandage.

Bruises are due to an escape of blood into the skin, or the deeper tissues. When the blood is very deep in the tissues it does not show at once, the skin does not become discoloured for two or three days.

Bruises unaccompanied by broken skin are seldom treated at all, although when extensive and severe they ought to be treated by rest, and a firm bandage, in order to check the outpouring of blood into the tissues.

When the skin is broken great care should be taken to wash out all the dirt, and to bathe the part with carbolic or Condylion lotion. In most cases a compress of lint soaked in weak carbolic lotion, covered with oiled silk and secured by a bandage for one night, will save days of soreness and suppuration.

Severe haemorrhage can always be stopped by firm pressure with one or more fingers. If it is serious pressure must be maintained until the doctor comes, by the finger or fingers. A weight should be laid over them to relieve the fatigue which will soon be felt.

Foreign bodies in the windpipe, eye, ear and nose.

Little children, especially babies, frequently put coins, buttons, and other objects in their mouths and not unfrequently attempt to swallow them. Such things may lodge in the air passages or in the gullet. In the former case the child chokes, fights for breath and becomes livid. If possible the best thing is to turn the child upside down and gently shake him or smack him on the back, not infrequently this dislodges and expels the foreign body. If this is not successful the child too often dies at once of suffocation, for there is no time to obtain skilled assistance nor to administer an emetic which, by its violent expulsive results, might dislodge the obstructing substance.

Sometimes the obstruction is not complete and the child is able to breathe when absolutely quiet and not excited. There is time in such cases to seek assistance.

In most cases the foreign body enters the gullet and reaches the stomach safely. The question then arises whether the substance is likely to cause mischief by its shape or by its nature. Thus, a large dress hook may stick in some of the many folds and valves of the intestines, a strong fish-bone is dangerous because it may perforate the delicate walls of the bowels while a brass button or a copper coin may set up poisoning by its chemical action.

If a foreign body be lodged in the gullet it may be ejected by inversion of the patient with shaking or slapping. The finger may be passed into the throat or an emetic may be given to cause the expulsive efforts of vomiting. If the foreign body has reached the stomach our object should be so to wrap it up that it may pass safely along the many coils of the bowels, especially if it is uneven in surface or has cutting edges like a piece of glass. This object may be attained, not by the administration of aperients, but by feeding the child on substances likely to cause bulky and solid faeces (motions). Plenty of milk, vegetables, bread and butter and suet puddings are a good diet for this purpose in older children, but infants must be fed on milk only. The faeces should be carefully watched, broken up, mixed with water and passed through a sieve so that when the foreign body passes its departure may be known. Usually several days will pass before this welcome event occurs.

It must be remembered that often when a child is supposed to have swallowed a foreign body no such accident has occurred. If the supposed body were of metal the question can be decided at once by examination with the X-rays.

Foreign bodies in the eye. If a fly or a particle of dust be lodged in the fold of the eyelid it can usually be easily extracted. All mothers and nurses should learn how to turn up the upper eyelid painlessly and quickly for sometimes much irritation is caused by a foreign body retained in this part.

If a chip of stone or metal has stuck in the cornea (the glassy part of the eye) it needs skilful treatment and should not be attempted in the nursery.

Lime in the eye is best treated by dropping in vinegar and water equal parts, but the injury is usually serious and the child should be taken to the doctor at once. Dust in the eye is best treated by dropping in a little castor oil and in all cases an eye shade should be worn.

Foreign bodies in the ear are generally peas, or buttons deliberately put there by the child, when hard like a button dislodgment may be effected by syringing, care must be taken to direct the stream of water above or below the body so that it may be washed out by the return current. If the stream play on the body it will be pushed further in.

When there is a pea or some such soft thing in the ear syringing will cause it to swell and increase the child's distress. It may sometimes be coaxed out by passing a bent loop of wire behind it and drawing it gently forwards. The bent end of a fine hairpin does well. When the offending substance is a living insect it is readily dislodged by filling the ear with warm oil.

Foreign bodies in the nose.—Can be treated in the same principles as those in the ear—also by the administration of a little snuff.

Sometimes the foreign body has been long retained and suspicion is only excited when a persistent and offensive discharge comes on, a careful search should then be made for little children quickly forget and may have no remembrance of having put anything into nose or ear.

Stings of insects, jelly fish, etc.—The stings of insects, especially of bees and wasps, are of frequent occurrence in the country. The sting of the bee is usually broken off in the wound inflicted, it should be looked for with a good magnifying glass and removed by forceps or tweezers or by pressure with open end of a watch-key then, like that caused by the sting of a wasp, the wound may be treated with spirits of ammonia, salvolatile, or even a solution of washing soda, or the juice of a raw onion.

The sting of the scorpion is more formidable and is likely to cause faintness and depression; a good application is undiluted spirits of ammonia or a paste made of ipecacuanha powder and chloroform. The child should be put to bed and have hot water bottles to his feet.

The sting of the jelly fish is experienced when bathing or paddling. It causes intense and wide spread irritation, very like that produced by the sting of the nettle or by nettle rash. It may be treated by cloths wrung out of soda lotion—(a piece of washing soda about the size of a walnut dissolved in a pint of warm water). The discomfort usually subsides in a few hours.

SCRATCHES AND BITES OF CATS, DOGS, AND OTHER ANIMALS.

These are common accidents in childhood and always need prompt attention. The wound inflicted by an

animal's teeth is deep in proportion to its width, therefore any dirt or poisonous material is lodged at the bottom of a hole and is difficult to get rid of. The natural habits of cats and dogs make it certain that even when the animal is healthy its claws and teeth are covered with dirt and septic particles.

A wound caused by bite or scratch should therefore be most scrupulously cleansed with a reliable disinfectant. The process is painful and if possible the child should be anæsthetised. If not he must be securely pinioned by being rolled in a bath sheet. If stitching be necessary care should be taken to leave spaces, or otherwise provide for the ready escape of discharge. The wound should be dressed with aseptic gauze, or clean boiled rag, wrung out of boiled saline lotion (one teaspoonful of table salt boiled in a pint of water). The dressing should be bandaged on, and must be renewed twice a day, and oftener if much discharge occurs.

The child should be kept cool and quiet, the diet should be very simple, no meat should be given even to older children, no visitors and no exciting games should be allowed.

The bites of animals are very dangerous. They are liable to become septic, and they may convey the infection of hydrophobia or of tetanus.

A cat or a dog which has bitten a child must not be killed but should be kept under careful supervision for if it is healthy it would be a cruel and unnecessary sacrifice to kill it, while if unfortunately it is suffering from rabies the symptoms it displays will serve as a warning to have the child inoculated. In any suspicious case the wound should be well rubbed with caustic (nitrate of silver) or burnt with a wooden match, the end of a cigar or anything at hand.

Tetanus, or lockjaw, is caused by the introduction into the tissues of a micro-organism which lives in the dust, and is most apt to appear after wounds inflicted by cart wheels, the hoofs of ponies, bites and scratches. The earliest symptoms are stiffness and rigidity of the muscles of the jaw, the neck and the abdomen. The best treatment is prevention by means of a very careful disinfection of

wounds. The treatment of tetanus when once it has developed is unsatisfactory, although an anti-tetanic serum is now prepared and has sometimes been used successfully.

The symptoms come on about a week or ten days after the infliction of the wound and are severe in proportion to the rapidity with which they appear.

The bites of mosquitoes, gnats, fleas and bugs and other insects are very irritating and often raise large wheals in children with sensitive skins. Violet powder made into a cream with equal quantities of chloroform and eau de cologne allays the itching better than anything else, but much relief is afforded by the application of spirits of ammonia or of oil of Eucalyptus.

Poisons.

Children are liable to be poisoned by

1. Having liniments or lotions administered to them in mistake for medicine.
2. By swallowing sugar-coated tabloids under the delusion that they are sweets.
3. Having too strong poisonous lotions applied to wounds.
4. Eating poisonous fruits and fungi.
5. Photographic materials.
6. The last dose of medicine may be too strong the bottle not having been shaken.

The accidental administration of liniments and lotions should be avoided by

- a. having external remedies in differently shaped and differently coloured bottles from those used for internal medicines.
- b. by keeping liniments, lotions, and other external applications in a different part of the room from the internal remedies.
- c. by carefully reading the directions on the label every time before giving the child a dose. The bottle should be well shaken before each dose so that the last may not be too strong.

N.B. Uneducated people should never be allowed to pour out or mix medicines.

The swallowing of sugar-coated tabloids, or of laudanum or any other poison must be avoided by all such things being kept in a locked up cupboard out of the reach of the children.

3. The application of too strong lotions (especially of disinfectants) arises from imperfect mixture, as in the case of carbolic lotion where if the acid is poured into the water instead of the water on to the acid it floats on the surface in oily drops which burn very severely. Corrosive sublimate and other mercurial disinfectants are sometimes used without sufficient dilution. Atropine drops may be allowed to run down the cheeks and so into the mouth.

4. The eating of poisonous fruits and fungi can only be prevented by enforcing obedience and by forbidding children to eat anything not given to them by their elders, or not shown to them for approval.

5. Photographic materials, strong acids used in engraving, etc. must all be kept safely out of reach.

If poison has been taken send for the nearest doctor at once and say what has happened so that he can bring a stomach pump and antidotes with him. If a child has swallowed poisons except strong acids and alkalies, the first treatment is to make him vomit. A good draught of mustard and water (two tea spoonfuls of mustard in half a teacup of water) is best. It is always at hand, it will do no damage, and it is a stimulant; make him drink freely of tepid water, put a finger down his throat, tickle his throat with a feather.

After this treat for the poison it is supposed the child has swallowed.

Liniments for the relief of pain generally contain opium and sometimes belladonna, sometimes ammonia.

Lotions for burns, erysipelas, eczema, and nettlerash may contain sugar of lead.

Eye drops may contain belladonna, or nitrate of silver. If nitrate of silver be present it can be detected at once by adding plain water or salt and water to the bottle when its contents will become milky.

If the child is supposed to have taken **opium**.

Chief symptoms drowsiness and very small pupils of the eyes. Give the emetic, insist on procuring vomiting.

Then give strong coffee, or strong tea, keep the child walking about, flick his bare skin with the corner of a wet towel. If too young or too weak to walk carry him about and try to amuse him—do not let him go to sleep.

Belladonna or Atropine. Chief symptoms—flushed face, dry throat and tongue, dilated pupils, excitement.

Treatment. Procure vomiting and give plenty of over-drawn tea. Sponge the head and face with cold water.

Strychnia or Nux Vomica. Chief symptoms—pain in stomach, convulsions and spasms.

Procure vomiting—keep patient as still as possible. Give over-drawn tea.

Arsenic. Give plenty of white of egg mixed with a little water. Procure vomiting. Give a teaspoonful of brandy well diluted if there is great depression.

Hartshorn and oil, ammonia liniment, Elliman's embrocation, soda lye, soap-suds. Give large draughts of tepid salt and water, if that does not cause vomiting tickle the throat, after vomiting has occurred give vinegar and water, also lemon juice and water.

For lotions supposed to contain lead, give Epsom salts, or any preparation of sulphate of magnesia (such as granular effervescent sulphate and sulphate of soda—Procure vomiting.

Carbolic Acid. Plentiful draughts of milk or sweet oil, then procure vomiting.

Mercury (Corrosive sublimate—Biniodide, etc. Plenty of eggs beaten up with water—then procure vomiting.

Poisonous food. First give a good emetic then castor oil or seidlitz powder. If poisonous fungi have been eaten after the stomach has been cleared give a cupful of over-drawn tea.

Recovery of the apparently drowned. Clear the mouth, nose and throat. Raise the body by the feet so that water may run out of the mouth and nose. If the patient be an infant, swing the body holding it by the feet, several times. Lay the body on a folded blanket on a table and do artificial respiration. This must be done methodically—one person should hold a watch and set the time every four seconds saying "now." This person or another steadies the body, and the principal attendant

raises both the patient's arms parallel with the sides of the head so as to draw the ribs upwards—then he brings them back, crossing them on the chest and compressing it, or lays them straight beside the chest so compressing it laterally.

The body must be kept as warm as possible, and if possible a little hot milk should be poured down the throat.

Even if a child is not unconscious and does not seem very ill after an immersion, he should be put to bed between blankets and a doctor should be summoned, for there may be internal injuries—or some illness, such as rheumatism or congestion of the lungs, may supervene.

APPENDIX

FORMULÆ FOR MILK MIXTURES

Copied from the 'Encyclopedia Medica'

Age	Formula	Interval between feeds.	Quantity.
1st week	Milk, 1 tablespoonful Water, 2 tablespoonfuls Lime water, 1 tablespoonful Cream (48 p.c.) 1 teaspoonful Milk sugar, half a teaspoonful (Half this quantity to be given as a feed).	2 hours	1 oz.
2nd to 6th week	Milk, 2 tablespoonfuls Water, 3 tablespoonfuls Lime-water, 1 tablespoonful Cream (48. p.c.) 1 teaspoonful Milk-sugar, 1 level.	2 hours	1½ to 2 oz.
6th week to 3rd month	Milk, 3 tablespoonfuls Water, 3½ tablespoonfuls Lime water, 1 tablespoonful Cream (48. p.c.) 1 teaspoonful Milk sugar, 1 level.	2½ hours	3 to 4oz.
3 months to 6 months	Milk, 4 tablespoonfuls Water, 3 tablespoonfuls Lime-water, 1 tablespoonful, Cream (48. p.c.) 1 teaspoonful Milk sugar, 1 level.	3 hours	4 to 6oz.
6th to 8th month.	Milk, 8 tablespoonfuls Water, 2 tablespoonfuls Lime water, 3 tablespoonfuls Cream (48. p.c.) 1 teaspoonful Milk sugar, 1½ teaspoonfuls.	3 hours	6 to 7oz.
8th to 12th month.	Milk, 12 tablespoonfuls Water, 2 tablespoonfuls Lime water, 2 tablespoonfuls Cream (48. p.c.) 1 teaspoonful Milk sugar, 2 teaspoonfuls.	3 hours	7 to 8oz.

DIET IN MUCOUS DISEASE

For a child about seven years of age and upwards

- I. Breakfast : 8 a.m.
Three-quarters of a pint of fresh milk alkalinized by twenty drops of the saccharated solution of lime.
A thin slice of well toasted bread.
Fresh butter.
Dinner : noon.
A small mutton chop without fat, broiled.
A little well boiled cauliflower or French beans according to season.
A thin slice of well toasted bread.
Tea : 4 p.m. Same as breakfast.
Supper : 7 p.m.
A breakfast-cupful of beef tea (a pound to the pint).
- II. Breakfast : 8 a.m.
Half-a-pint of new milk, alkalinized with fifteen drops of the saccharated solution of lime.
A thin slice of cold roast beef or mutton.
A thin slice of well-toasted bread.
Dinner : noon.
A little boiled sole or turbot (without melted butter).
A thin slice of stale bread.
Tea : 4 p.m.
A poached egg on a thin slice of dry toast.
Milk and water.
Supper : 7 p.m.
Three-quarters of a pint of alkalinized new milk.
- III. Breakfast : 8 a.m.
One teaspoonful of Cadbury's Cocoa essence boiled for one minute in half a pint of milk.
A slice of thin dry toast.
Dinner : noon.
The wing of a roasted or boiled fowl.
A little well-boiled flower of cauliflower or well stewed celery.
A slice of thin dry toast or stale bread.
Tea : 4 p.m.
Half-a-pint of alkalinized milk.
A lightly-boiled egg.
A slice of thin dry toast.
Supper : 7 p.m.
A breakfast-cupful of beef tea (a pound to the pint.)
A thin slice of dry toast.

Two of the meals should always consist principally of milk. For the other meals selection should be made from the following :—

MEATS : Roast beef, roast or boiled mutton, roast or boiled fowl (without sauces), roasted pheasant, turkey, lark, snipe. No spiced, or salted, or preserved, meats can be allowed.

FISH : Boiled cod, turbot, mackerel, or sole ; raw oysters.

EGGS : Boiled or poached.

SOUP : Clear turtle, beef or veal tea.

VEGETABLES : Cauliflower, turnip greens, asparagus, young French beans, Spanish onion, lettuce or celery, (stewed).

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THE END.





